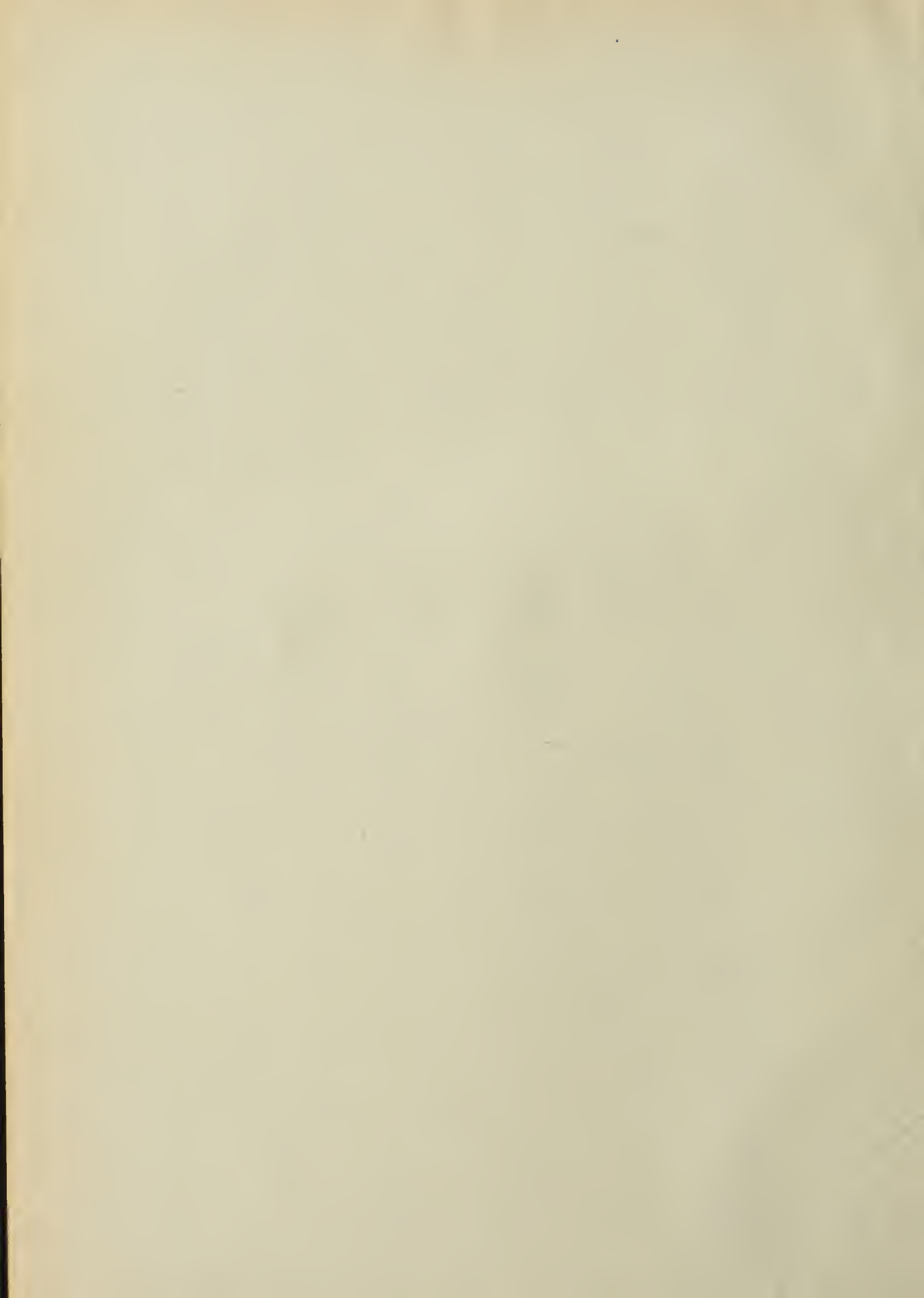


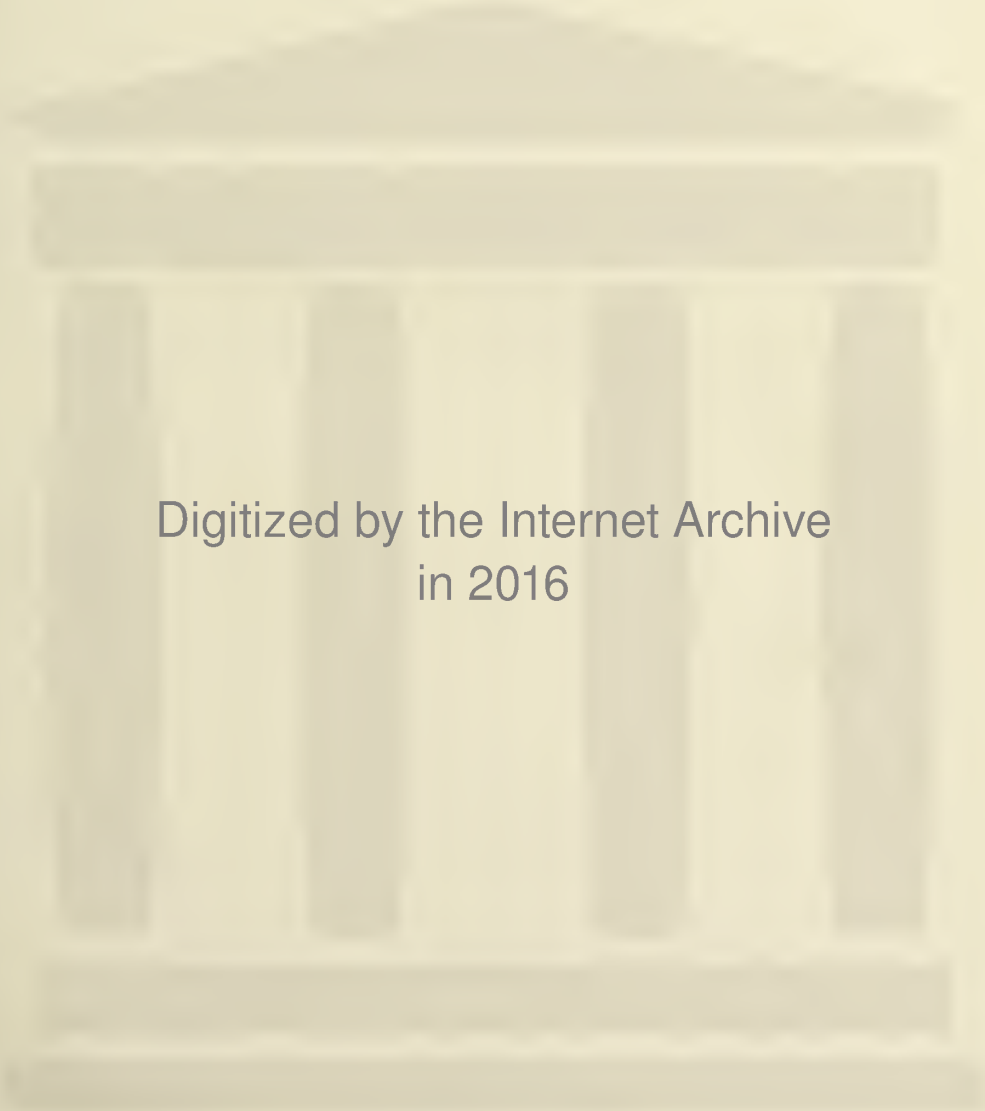
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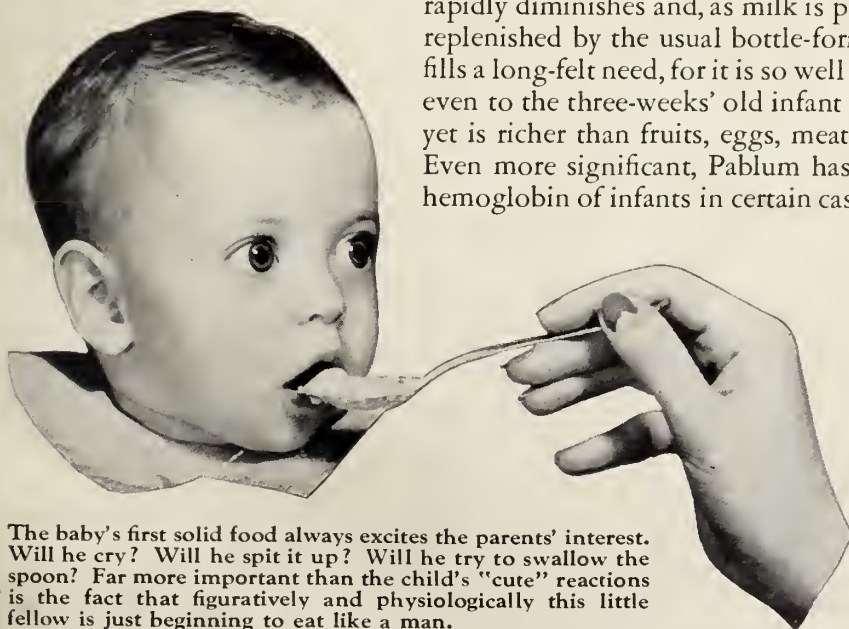
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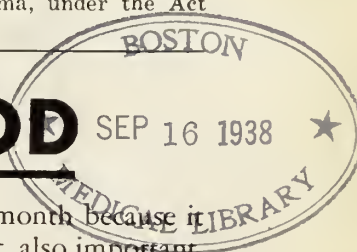
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SURGERY OF THE BILIARY PASSAGES*

WITH SPECIAL REFERENCE TO THE
HAZARDS AND THEIR MANAGEMENT

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Formerly, most of the surgical contributions to the subject of diseases of the biliary passages have been devoted to arguments regarding matters of procedure. The comparative value of cholecystectomy over cholecystostomy, or vice versa, or the time for surgical intervention, whether early or late, in acute cholecystitis has been exhaustively discussed. We have unquestionably learned much of great value from the statistical presentation of these subjects. However, that too large a percentage of unsatisfactory results follows any type of surgery performed on the biliary passages is an undeniable truth. The criteria for surgery, as generally accepted, are right upper quadrant pain, tenderness, digestive disturbances, calculi and non-visualization of the gallbladder. Surgery alone is not at fault for the unsatisfactory end results. Medical management, because of its inadequacy, has driven many cases to operation. Failure to appreciate associated lesions of the liver and other organs as a part of gallbladder disease may be largely responsible for many of the discouraging results following treatment. Studies of our results following surgery give us the impression that it might be more pertinent to decide first what a surgical gallbladder is.

Today the management of gallbladder

disease has undergone many changes. Biliary tract surgery consists of more than the mere removal or drainage of the gallbladder. About 50% of the population suffers from some form of biliary pathology, whereas only half this number possess gallstones. It is especially the stoneless type of gallbladder that yields such poor results following surgery alone. When one considers the probably underlying mechanism of gallbladder disease, this is not surprising. The gallbladder is not a vestigial organ because it does have definite physiologic functions. We know that, normally, it is capable of concentrating bile, that it will not absorb cholesterol, that it will absorb bile salts and chlorides and that it will not precipitate calcium salts. In disease these functions are altered.

The production of dysfunction of the gallbladder is dependent upon at least three factors: stasis, cholesterol metabolism and infection. Biliary stasis may be brought about in different ways. It may be due to insufficient intake of fatty foods, for fats stimulate the emptying of the gallbladder, either directly or by the production of the hormone, cholecystokinin. As a result of this understimulation, a mechanical stasis results. Edema of the bile passages, with obstruction—complete or incomplete—will produce stasis, as will obstruction of the common duct, especially near the ampulla of Vater. Mechanical obstruction in pregnancy is also a contributing factor to stasis. From whatever source stasis occurs its relation is very close to further functional alteration and infection of the gallbladder.

Cholesterol metabolism is closely allied with stasis. We know there are two sources of cholesterol in the body, an exogenous and an endogenous. The exogenous supply is controlled by diet. The endogenous is influenced by several conditions. For example, a hypercholesteremia may be found in acute infections, diabetes mellitus, pregnancy and certain stages of nephritis. Corpus luteum and the adrenal cortical hor-

*Read before the Association in annual session, Mobile, April 20, 1938.

From the Departments of Medical and Surgery, College of Medicine, Ohio State University.

none are thought by some observers to increase the blood cholesterol, while estrin lowers it. Recently we observed a hypercholesteremia in a patient receiving large doses of corpus luteum to maintain a pregnancy. Just prior to parturition, upon discontinuance of the hormone, the blood cholesterol fell 30% within a week. In several cases of adrenal cortical insufficiency we have found a hypocholesteremia. Hurxthal is of the opinion that in hyperthyroidism there is consistently present a hypocholesteremia, while McGee and others do not agree on this. It is also thought that in hypothyroidism there is a hypercholesteremia. Briefly, we may say that endogenous cholesterol metabolism is influenced by hormones and infections, while the exogenous supply is affected entirely by diet. In the majority of cases of gallstones, the blood cholesterol is normal. It is reasonable to postulate that a normal level seen in patients exhibiting gallstones is due to the fact that the period of hypercholesteremia has passed. Certainly the fact cannot be overlooked that women manifesting evidence of gallbladder disease often give a story of continued menstrual and endocrine dyscrasia. Graham and many others have pointed out that the incidence of gallstones following pregnancy is high. In pregnancy, laboratory tests have shown that there is always a diminution in liver function. This might reduce the amount of bile salts formed which in turn would reduce their concentration in the bile. Bile salts maintain cholesterol in solution in the bile. They are produced only by the liver from bile acids derived from protein and products in the intestine. A hypercholesteremia producing an increased biliary cholesterol with a lowered bile salt concentration might easily lead to a precipitation of cholesterol in the gallbladder. This would be especially true in the presence of biliary stasis as a result of mechanical obstruction due to pregnancy.

The role of infection is not clear. It has been shown that organisms injected intravenously can be recovered from the mucosa of the gallbladder 15 minutes after inoculation. This implies that infection anywhere in the body is capable of producing inflammatory changes in the gallbladder providing such infection can become hematogenous. It is practically impossible experi-

mentally, to infect the gallbladder by a retrograde route via the duodenum. Andrews has stated that, when the cystic duct is closed from any cause, infection results and remains for variable periods of time. There appears to be no specificity to the organisms found in the bile from infected gallbladders. The most common offenders are those of the colon-typhoid group and the streptococci. Recently we recovered a pure culture of *B. coli* from the pelvis of the right kidney in a patient suffering from pyelitis and the same organism from the bile on duodenal intubation. This patient had had numerous attacks of biliary colic, jaundice, nausea and vomiting. A vaccine was made from the culture and an intradermal skin test with 50,000 organisms produced a terrific reaction in 24 hours. Many patients will react to *B. coli* intradermally, but Rehfuess and Nelson emphasize the significance of delayed reaction as being of considerable value in contrast to immediate reaction.

The presence of associated pathology in other organs of the body in gallbladder disease is well recognized. Rehfuess and Nelson, in a large series of cases, state that 40% of their patients suffer from some form of cardiac disease varying from palpitation to serious myocardial damage. This is not surprising when one considers that the age at which most gallbladder patients are seen is also the age for cardiac disease. The gastro-intestinal tract comes in for its share, with a high percentage of peptic ulcers, pylorospasms, duodenal adhesions, appendicitis and, the most common of all, constipation.

Graham is of the opinion that the liver is always involved if the gallbladder is diseased. Experimentally Tomita has produced aseptic and septic cholecystitis and in practically every animal the liver showed some degree of involvement, both microscopically and also from a functional standpoint.

In the diagnosis of gallbladder disease, these conditions must be sought for and given due consideration. Especially is this true if we accept the theory that involvement of this organ is always secondary. The associated pathology must, therefore, be given as much, if not more, attention than the diseased gallbladder itself. Obviously, surgical intervention, in acute or chronic

disease of the bile passages must not overshadow either the preoperative or the postoperative care and the treatment of the associated pathology.

Referring specifically to disease of the gallbladder, it is customary to subdivide it into the acute, subacute and chronic forms. Empyema and gangrene of the gallbladder are included as part of the acute group. Behrend and Gray at the Mayo Clinic recently reported a series of 200 cases of cholecystectomy of which only six were proven acute by the pathologist. The remainder consisted of 89 subacute, 104 chronic, and one carcinoma of the gallbladder. In general, this coincides with the findings in 70 recent cases of cholecystectomy which we have observed in the wards of the Ohio State University Hospital. The microscopic examination by our pathologist, Dr. H. L. Reinhart, revealed 3 acute, 11 subacute, 45 chronic, 4 normal, 5 primary carcinomata and 2 metastatic carcinomata of the gallbladder.

In a total of 231 cases which we have studied, there were 17 deaths and 14 autopsies. The outstanding pathology in those that died was:

- 6 cases of obstructive jaundice (4 due to carcinoma) with hemorrhage
- 5 cases of obstructive jaundice without hemorrhage
- 1 case of hemorrhage without jaundice
- 1 case of obstructive jaundice with hemorrhage following extensive burns and severe acute liver necrosis
- 1 case of acute perforation of the gallbladder with peritonitis
- 2 cases of empyema of the gallbladder, fulminating in type
- 1 case of postoperative pneumonia
-
- 17 cases—total

These findings impress one with certain facts: the frequency of obstructive jaundice; the prevalence of liver damage; and hemorrhage with and without jaundice.

The frequency with which hemorrhage complicates severe biliary tract disease is well established. Quick, Stanley Jones and Bancroft in 1935 introduced a new method for prothrombin determination and hypothesized that in obstructive jaundice the prothrombin content of the blood is lowered. Presumably the factors concerned in this, according to the recent work at the Mayo Clinic, are two substances, vitamin K and bile salts. The role of the bile salts

is believed to be that of an agent of transportation for the vitamin K from the gastro-intestinal tract to the circulation. Apparently in the absence of bile salts the vitamin K cannot be utilized. The best known sources of vitamin K are alfalfa, spinach and cabbage. Fresh, dried, powdered alfalfa, given in conjunction with bile salts, has reduced the hemorrhagic tendency in jaundiced patients markedly in the cases that have been studied. Quick and his co-workers have shown that the hemorrhagic tendency in obstructive jaundice is not due to calcium deficiency.

The syndrome of liver death is a well recognized disease entity. Heyd, Cave, Boyce and McFetridge and Jones have definitely pointed out that such a condition does exist. It may result from direct trauma, severe burns with intoxication, intestinal obstruction, surgery and drug intoxication. The onset may be delayed or sudden. In our series we had examples of both immediate and delayed liver deaths, with and without hyperpyrexia. The pathologic process is characterized by an acute necrosis of the liver cells. In some cases there is an associated necrosis in the kidney substance giving rise to the title, "liver-kidney syndrome." The prognosis is poor, certainly fatal if not immediately recognized and treated. The management requires anticipation, recognition, vigilant and intelligent care.

The work of Bollman, Mann and Magath, on hepatectomized animals with the temporary life saving use of intravenous glucose, is a hallmark in medicine. Jones at the Massachusetts General Hospital has shown that since the advent of high carbohydrate management the mortality rate at this hospital has dropped markedly. Today, intravenous glucose in liver insufficiency is a sheet anchor to the dying patient. Furthermore, the value of high carbohydrate diets has been shown, by Jones, Quick and others, to lower definitely the morbidity and mortality in liver insufficiency.

The routine which we have been following, in addition to the usual history, physical examination, blood count and urinalysis, consists of an icterus index, van den Bergh, galactose tolerance test, hippuric acid test, blood urea and blood cholesterol determinations. In the absence of obstructive jaundice, intravenous cholecystography

is used. In our experience the majority of cholecystograms reveal a non-visualizing gallbladder. The factors concerned in the production of a non-visualizing gallbladder we believe to be (1) faulty technique; (2) inability of the dye to reach the gallbladder due to hepatitis or cholangitis; (3) inability of the dye to reach the gallbladder due to cystic duct obstruction; (4) inability of the mucosa of the gallbladder to concentrate the dye due to inflammatory change; and (5) delayed concentration by the mucosa, the x-ray picture being taken before the dye has been concentrated. If deformity of the gallbladder is seen, a barium meal with fluoroscopy and x-ray films are carried out. The high incidence of heart disease often necessitates an electrocardiogram.

In the last 50 consecutive cases we studied, jaundice was present in 12. The galactose tolerance test for liver function was positive in only one, while the hippuric acid test was positive in 31. Any case excreting 3 grams or more of galactose was considered indicative of liver insufficiency and any one excreting less than 3 grams of hippuric acid was considered likewise. The galactose tolerance test is based upon the ability of the liver to transform galactose to glucose, while the hippuric acid test is dependent upon the ability of the liver to synthesize (a detoxification process) hippuric acid from a given amount of benzoic acid. Blood urea determinations serve a twofold value inasmuch as the kidneys must be functioning normally to excrete the hippuric acid formed in the liver. Quick and others maintain that a blood urea of 20 mgm. per cent or more disqualifies a hippuric acid test. Besides this, the liver is the sole seat of formation of urea, and low blood urea determinations are of serious import because this is the last function to fail. Snell and Plunkett advise restraint from operation in any case with a hippuric acid test of less than 1.5 grams. Our experience has been that patients with low hippuric acid synthesis have a very stormy postoperative course. Eight patients of the 50 just alluded to synthesized 1.5 grams or less of hippuric acid. Four of the group died postoperatively in spite of large amounts of glucose, saline and supportive management. Their exit was characterized by vasomotor collapse, hyperpyrexia,

hemorrhage and death. Two recovered, one of which had a very desperate postoperative course and the other was only subjected to a very short simple exploratory laparotomy following which the postoperative course was not particularly remarkable. The two remaining were not operated upon but given supportive management until the hippuric acid test was 2.5 grams or more. They were then operated upon without any postoperative disturbance whatsoever. One of us (CJD), in conjunction with H. L. Reinhart, has previously reported with favorable comment on the relative value of the hippuric acid test for hepatic function. However, we agree with the majority of investigators that no single liver function test is sufficient upon which to base a prognosis, but diminished function as shown by several different tests must be given serious thought.

Intravenous cholecystography was performed in 41 cases. Fifteen of this number visualized, 3 of which showed negative shadows suggestive of stone. Twenty-six were non-visualizing, with positive shadows in 6, suggestive of stone. In a larger series not included in this group, 158 intravenous cholecystograms were done, 39 of which visualized and 119 did not visualize. Thirty showed positive shadows and 10 negative shadows. This apparently is a consistent finding in our routine. The clinical diagnosis of chronic disease was made in 43 cases, 2 were diagnosed acute, which the pathologic diagnosis changed to subacute. Four were carcinoma and 1 was normal.

Of the 50 cases, 12 were cholecystectomized and 11 cholecystostomized, while 7 were opened for exploratory purposes. The mortality for the group was 10% or 5 cases. Two were due to primary carcinoma of the gallbladder with cholelithiasis and obstructive jaundice. One of these developed a severe hemorrhage and the other a sudden liver death with hyperpyrexia. One death was produced by a metastatic carcinoma of the gallbladder with obstructive jaundice, liver insufficiency and hemorrhage. One death was due to a chronic cholecystitis with lithiasis, obstructive jaundice, liver insufficiency and pneumonia. The fifth case was one of obstructive jaundice due to acute necrosis of the liver with hemorrhage following burns.

Owing to the fact that this disease is so

commonly complicated by an associated pathology in other organs, most careful preliminary study is important. Our objective has been to search for and correct, in so far as possible, the following conditions: foci of infection, endocrine dyscrasias, gastro-intestinal pathology, cardiac disease and liver insufficiency. It is our opinion that no case is properly prepared for surgery until these investigations have been completed and their relation to the clinical aspects considered.

In the presence of positive shadows of stone on cholecystography, surgery is definitely indicated. Gallbladders which are non-visualizing and which do not visualize following cholerisis and which continue to produce symptoms should be surgically investigated.

The type of surgery, i.e., cholecystectomy or cholecystostomy, to be performed is so controversial that one hesitates to attempt to establish routine standards. The gallbladder which is definitely damaged beyond reasonable hope of recovery should certainly be removed, if this can be done without unduly increasing the hazard. On the contrary, the gallbladder presenting a minimum of macroscopic damage may return to normal functional activity after removal of stones. Therefore, its removal is not always demanded. We believe that no rule of thumb can be laid down but that each case will suggest the procedure at the time of operation.

In general, our decision between cholecystectomy and cholecystostomy is based upon the appearance of the gallbladder and the appearance of the liver. Macroscopic evidence of hepatitis, as indicated by rounded margins and deepening of color, sway us toward the more conservative cholecystostomy. Inflammatory changes of the gallbladder wall, characterized macroscopically by thickening and fibrosis, are suggestive of permanent damage and this type is removed when possible. In the presence of both of these manifestations cholecystectomy is usually performed. When stones are found in the common duct, the gallbladder is removed and the common duct drained. Excessive loss of bile following choledochostomy or cholecystostomy is believed to be a factor in the production of postoperative hemorrhage. We collect the bile from the drainage tube and administer

this to the patient by means of a Levine tube into the stomach as a prophylactic measure against hemorrhage.

The treatment to be employed in acute cholecystitis is also the basis of much controversy. Immediate surgical intervention is advocated by some, while delay is just as strongly urged by others. Inasmuch as the majority of cases are simply acute exacerbations of chronic disease, as proven by pathologic findings, conservative management is logically suggested. The incidence of acute tragedies, such as rupture, gangrene, and empyema, being very low and their premonitory signs somewhat prominent, the experience of the surgeon will go a long way toward making the final decision as to time of operation in these cases. More conservative management allows sufficient time for the investigation of liver function and associated pathology and the institution of measures for their protection.

The choice of anesthetic is also a matter for serious consideration. Bourne has pointed out that no anesthetic, with the exception of cyclopropane, is free from danger in liver damage. Chloroform is the most toxic. Oxygen administered in conjunction with ether is perhaps the most satisfactory anesthesia to use with the exception of cyclopropane.

Diet, drugs, biologics and duodenal intubation must be considered in the pre- and postoperative management of the disease. The diet is not a fixed article. In the presence of liver insufficiency the use of large amounts of glucose is indicated, as shown by the work of Bollman, Mann and Magath and Jones. In acute liver insufficiency the use of intravenous glucose is often a life saving measure. Since carbohydrates are the chief source of glucose, we employ weighed diets consisting of 200 to 400 grams daily. Inasmuch as the liver is the sole seat of formation of urea, and urea is an end product of protein metabolism, the proteins in the diet, in liver insufficiency, are limited to 40 or 50 grams daily. Fats require bile salts for their assimilation; they contract the gallbladder and are digested very slowly. Therefore, the fats are restricted to 40 or 50 grams daily. In other words, the liver is splinted by lowering its metabolic activity and it is supported with glucose. In the absence of any de-

gree of liver damage the diet is mainly influenced by the patient's own dietary idiosyncrasies. Invariably the gallbladder patient, is, as Rehfuß says, a digestive invalid. Usually the intolerance is toward fat. In the presence of active inflammation fats may precipitate a spasm of colic. The use of a high fat diet in static gallbladder disease is a different story. Mock and Brown advocate high fat diets in conjunction with bile acid therapy. The bile acid they use is ketocholelanic acid (Ketocholel-Searle & Co.). Rehfuß and Nelson recommend decholin, another form of bile acid. Koehlstaedt and Helmer recommend an iron bile acid, bilron. Theoretically, most any case of chronic gallbladder disease should tolerate bile acid preparations since fundamentally they are choloretics and not cholagogues; that is, they will stimulate the liver to increase the production of bile but will not contract the gallbladder. Obviously, this washing out of the biliary passages diminishes stasis and with the increased manufacture of bile should create a tolerance for higher fat content in the diet. Our routine in cases subject to colic has been to inaugurate bile acid therapy with a low cholesterol and low fat diet and then gradually add the cream, butter, eggs and fat to the diet as tolerated. If no history of colic is obtained and the findings are not suggestive of stone but rather those of stagnation, a moderate amount of fat is allowed and gradually increased to a maximum level.

The use of duodenal intubation is a valuable procedure both from a diagnostic as well as from a therapeutic point of view. The inability to obtain "B" or gallbladder bile suggests cystic duct obstruction or a non-functioning organ, providing "A" or liver bile is obtained. The microscopic finding of cholesterol or calcium bilirubinate crystals suggests biliary calculi, while the cultivation of organisms from the bile makes possible vaccine and vaccine filtrate therapy. From a therapeutic standpoint, duodenal intubation empties a stagnant gallbladder and promotes drainage. It can be repeated once or twice a week at intervals with good results. This procedure cannot be expected to replace surgery in the face of persistent symptoms. The use of vaccines and vaccine filtrate therapy has been found to be of much value by Rehfuß

and Nelson in a small percentage of cases. Our experience is too limited to warrant an opinion but whenever organisms can be cultured from the bile intradermal skin tests should be done and vaccine therapy begun if the tests are positive.

The management of acute colic formerly was based upon the use of morphine, with or without atropine. It has been shown that morphine is stimulatory to the intestinal and gallbladder wall, while such drugs as the vasodilators are antispasmodic. The action of morphine in the control of biliary colic is probably due to central depression. For severe biliary colic we have had excellent results with 4 grains of aminophyllin intravenously or the inhalation of a pearl of amyl nitrite. This may be repeated every 2 or 3 hours as required. However, if the patient can tolerate oral drugs, the dissolution of 1/200 grain of nitroglycerin under the tongue gives good results. We have had success, likewise, with 1½ grains of aminophyllin, 7½ grains of theobromine sodium salicylate, or 1 grain of sodium nitrite, by mouth as required, which is usually about 4 to 6 times a day. Occasionally, following the use of these drugs for the relief of biliary colic, the patient experiences periods of nausea and vomiting 2 to 4 hours following their administration. This, however, is not universal and can be alleviated by atropine. Musser reports the use of theophylline ethylenediamine (aminophylline) in a series of cases without side effects. Beckman has suggested that when these drugs are administered in conjunction with food they are less apt to produce disturbance. Occasionally it may be necessary to include small doses of morphine or codeine in conjunction with a vasodilator.

The conclusions which we have drawn from our studies are:

1. The high incidence of chronic disease over that of the acute form, and the attending complications associated with gallbladder surgery, have tended to shift the pendulum toward conservatism.

2. The preliminary study of the patient should include investigative procedures necessary to demonstrate associated pathology, with special reference to the degree of liver function.

3. In hepatic insufficiency the danger of hemorrhage and liver is great.

4. Surgical intervention should be deferred until there is a reasonable return of hepatic function.

5. Nothing can supplant sound surgical judgment. In any case of doubtful nature, exploratory operation is justifiable, but the type and extent of surgery should depend upon the actual appearance of the tissues plus a preliminary study of function.

6. The management of biliary tract disease rests not alone in the field of either medicine or surgery. Rather does it suggest the cooperative efforts of both branches in diagnosis and treatment.

We acknowledge the valuable assistance rendered in the preparation of data by Dr. John Hill (Assistant Resident in Surgery) and Dr. Karl Langacher (Assistant Resident in Pathology).

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HEAD INJURIES*

By

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The intelligent treatment of cranio-cerebral trauma should capture the interest of every practicing physician, inasmuch as, regardless of all the admirable efforts that are being made to reduce traffic accidents, this type of trauma is constantly increasing. As a result, actual cases of all degrees of head injuries are literally dumped on the doorstep of the doctor in the small villages as well as in the hospitals of the larger centres of population.

All efforts should be directed to the prevention of these disabling injuries, but, recognizing the futility of more than partial success in these efforts, it behooves the medical profession to be prepared to render its best to the unfortunate victims.

The remarks in this paper will be based on the treatment of 1056 cases of serious cranio-cerebral trauma treated by the writer in the neuro-surgical wards of the Hillman Hospital over a period of two and one-half years ending April 1, 1937. Since that time an additional three hundred cases have been admitted but not yet classified.

Intelligent treatment presupposes accurate diagnosis. Accurate diagnosis demands at least a working knowledge of the physiologic anatomy of the brain and a definite pathologic classification of the various types of cerebral trauma.

*Read before the Association in annual session, Mobile, April 19, 1938.

The classification that is best adapted to practical every day clinical work is that of Munro shown in the following table:

Skull	Linear and or Comminuted Fracture					
	Depressed Fracture					
	Compound Fracture					
	Special Fractures	{	Involving Paranasal Sinuses Middle and/or External Ear Including Pneumo-Encephalocele Cribriform Plate Bullet Wounds			
Brain		{	Concussion			
			Edema			
		{	Contusion and or Laceration			
	Special	{	Hemor- rhage	{	Sub or Extra	} Dural
		{	Infec- tion	{	Meningitis	} { Sub-Pial Sub-Cortical Intraventricular Rupture of Ve- nous Sinus Multiple Petechial
	Scalp	Lacerated and or Incised Wound				
		Contusion				
Hematoma						
General Bodily Condi- tions	Surgical Shock					
	Exhaustion					
	Dehydration					

It will be of value to review briefly the normal physiologic processes of the cerebrospinal fluid and cerebral circulation. The fluid, originating at the choroid plexus in the lateral ventricles, passes through the foramen of Monro into the third ventricle and thence through the aqueduct of Sylvius into the fourth ventricle. From there it passes through the foramina of Luschka and Magendie into the cisterna about the base of the brain and on to the cerebral and spinal subarachnoid spaces. It is over the cerebral subarachnoid spaces that the major portion of the fluid finds its way back into the circulation through minute openings in the arachnoid villi. The rate of absorption is slightly less than that of production, so that the fluid normally is under a pressure of from 100 to 150 mm. of water when the subject is in the lateral recumbent position.

The venous circulation in the brain is of importance, primarily because the cerebrospinal fluid is absorbed into it. While the fluid pressure is slightly higher, for practical purposes one may say that the fluid pressure and the venous pressure are equal. The point of clinical importance is

that as the venous pressure in the brain increases the intracranial pressure does so proportionately.

The first thing that happens after a blow to the head, the force of which is severe enough to be transmitted to the brain, is dilatation of the arterial side of the capillary loop. This produces a sudden rise in the hydrostatic pressure in the capillary loop and a leakage of serum into the perivascular spaces. Changes are thus produced in the osmotic relationship between the perivascular fluid and the blood in the capillary loop, so that a further seepage into these spaces occurs. The end result is that the venous capillaries are compressed, shortly producing back pressure in the entire capillary tree. If this state of affairs progresses there ensues anoxemia of the part of the brain involved, and possibly multiple petechial hemorrhages due to stasis of the capillary circulation. As the cerebral circulation fails, the medullary centers, as a result of the progressive anoxemia, respond, and there is a rise in the systemic blood pressure and a slowing down of the pulse rate. This reestablishes for a while the cerebral circulation, until there is a repetition of the cycle, which, if not broken by a reduction of the intracranial pressure, finally results in complete exhaustion of the centers—and death.

According to the degree of oxygen deprivation of nerve tissue, there will be actual and irreparable cellular destruction. This not only adds further to the already increased intracranial pressure but may be responsible for permanent post-traumatic difficulties, such as headaches, convulsive seizures and so-called post-traumatic neuroses.

Still another factor contributing to increased intracranial pressure is the purely mechanical blockage to the absorption of cerebrospinal fluid incident to the piling up of extravasated red blood cells in the cerebral subarachnoid spaces. The arachnoid villi are blocked, and there follows a rapid increase in the volume of cerebrospinal fluid within the subarachnoid spaces and the entire ventricular system.

These facts form the physiologic and pathologic bases for the fundamental group of cerebral injuries, namely, congestion and edema, contusion and laceration. This may properly be called the fundamental group,

for any of the more unusual forms of injury are superimposed on one or all of the conditions in it.

The information needed to classify properly the injury is obtained by careful observation of the patient's symptoms from the time he reaches the admitting ward and, as soon as his condition permits, neurologic examination, including lumbar puncture. Without definite knowledge concerning the pressure of the cerebrospinal fluid, determined by manometric reading, and the presence or absence of blood in the fluid, I fail to see how one can do otherwise than conjecture regarding the underlying pathologic condition.

Congestion and edema constituted about 25 per cent of the cases in our series and are characterized clinically by primary loss of consciousness followed by headache on return to the conscious state. There may also be disturbances of memory and, if the injury is serious enough, convulsions and motor weakness. The diagnosis is reached by recognition of these signs plus the fact that the cerebrospinal fluid does not contain red blood cells and the pressure is only moderately increased. There is no mechanical blockage to the absorption of spinal fluid with this type of injury, but the brain volume is increased by excessive perivascular and intracellular fluid.

Contusion and laceration are different degrees of the same type of injury and presuppose congestion and edema. They constituted slightly more than 50 per cent of our cases and are characterized by the symptoms due to increased brain volume plus the extravasation of blood into the subarachnoid spaces, thus producing a mechanical blockage to the absorption of cerebrospinal fluid. All the signs seen with congestion and edema are present but more exaggerated, i. e., there is a deeper coma—an increased restlessness amounting at times to mania—plus a spinal fluid under greatly increased pressure and containing anywhere from just enough red blood cells to color the fluid pink to almost pure blood. The richness of the mixture of spinal fluid with blood is significant of the degree of damage and influences the prognosis.

The important objectives in the treatment of the large majority of head injuries is the management of shock and the reduction of increased intracranial pressure.

It has been my experience that the majority of all patients suffering serious brain injury are either actually or potentially shocked. This condition demands priority in treatment, and no disturbing procedures, diagnostic or otherwise, are attempted until it is determined that the patient has emerged from this state. The best criterion is the temperature, which is taken every fifteen minutes, together with observations of the blood pressure and the pulse. Dandy has correctly said that a patient who will not survive a period of from four to six hours' observation will not recover regardless of treatment. Therefore, immediately on admission the patient should be wrapped in warm blankets and his temperature, pulse and blood pressure taken. Fifty cc. of 50 per cent dextrose is given to combat shock if the temperature is subnormal. If there are lacerations of the scalp no detailed repair of the wound is attempted at this time, but a sterile finger is introduced into the wound to determine the presence of skull fracture. A sterile dressing is then applied. If there has been appreciable loss of blood, from 250 to 500 cc. of physiologic solution of sodium chloride is given. Extreme restlessness is controlled by hypodermic injection of phenobarbital sodium, repeated if necessary. In view of the fact that the respiratory center may already be depressed, morphine, or its derivatives, is contraindicated. Solution of posterior pituitary and ephedrine are permissible as stimulants.

During the entire period of unconsciousness I feel that the patient's position in bed is of great importance. He should be placed in the lateral prone posture with the head of the bed at least 12 inches lower than the foot. In this position large quantities of bronchial mucus drain out which otherwise may be inspired, producing cyanosis and adding to the already increased intracranial pressure. Furthermore, inspiration of such mucus may be the starting point of a pulmonary infection that will be fatal if the head injury is not. I consider this one of the most important points in the treatment of these cases.

When the patient's temperature reaches 98 F., other things being equal, it is safe to proceed with neurologic examination, in which particular attention is paid to the depth of stupor, the state of the pupils, the

cranial nerves, the muscle tone and the reflexes. The type and rate of respiration are of much prognostic value.

X-ray examination is delayed until a more propitious time, except in the few cases in which middle meningeal hemorrhage is suspected. A fracture line across the vascular grooves in the skull would be valuable confirmatory evidence of this condition. Otherwise, x-ray examination in no wise influences immediate treatment, and more satisfactory films, with less disturbance to the patient, can be made when the patient's full cooperation is possible.

After this detailed examination, lumbar puncture is done for two reasons: (1) to determine accurately the degree of intracranial pressure; and (2) to ascertain the presence or absence of blood. The practice of "estimating" the degree of pressure of the rate of flow through the needle, instead of by manometric reading, is to be condemned as inaccurate and misleading. It is surprising how frequently this erroneous procedure is encountered.

If the pressure is within normal limits or only slightly elevated and the fluid is clear, nothing further is indicated. Subsequent treatment is dictated by the clinical signs and symptoms, which are obtained and recorded at thirty-minute intervals during the critical period. If the pressure is elevated enough, fluid is withdrawn to reduce it to normal. This is easily and accurately accomplished by means of a water manometer attached to a spinal puncture needle with a three-way cock, the operator alternately removing a small quantity and taking the pressure by simply turning the valve so that the fluid rises in the manometer. If the fluid contains blood, as much as possible is withdrawn at this time.

With the information thus gathered a working diagnosis is obtained. If the intracranial pressure is found to be increased, two means are available for reducing it: therapeutic dehydration of the brain and repeated spinal drainage.

The value of dehydration by hypertonic solutions given intravenously, in my opinion, has been vastly overestimated. All that any hypertonic solution can or is supposed to do is to reduce brain volume. Treatment of any type of injury other than simple edema by this method is, therefore, unjustifiable. The increased pressure will be

reduced just so much as the brain volume is reduced. This will not affect the pressure, due to an excessive amount of fluid and extravasated blood, to any appreciable degree. Occasionally, after therapeutic dehydration a dramatic temporary result is obtained, only to be followed by an overwhelming wave of secondary edema for which there is no effective treatment. It is claimed that sucrose has eliminated this possibility. I have not as yet had the opportunity to confirm this in a sufficiently large number of cases to warrant an opinion. Unless used with the greatest caution and checked by frequent pressure readings, dehydration may prove a dangerous boomerang.

On the other hand, repeated spinal drainage will reduce brain volume because the intracranial pressure is lowered, thus tending to restore the cerebral circulation to normal. This mechanical decompression promotes the absorption of excess intracellular and perivascular fluids and permits the brain tissue once again to begin to receive its required amount of oxygen. In addition to the removal of excess fluids, much of the extravasated blood incident to the contusion and laceration of the brain is removed, creating in this manner more space in the overcrowded cranial cavity.

For these reasons, in all cases in which the pressure is increased as indicated by manometric observation, and in which the fluid is found to contain blood, one performs drainage as often as in one's judgment the particular situation demands. In the presence of bloody fluid, drainage is repeated at intervals of eight, twelve or twenty-four hours, depending on the richness of the mixture, until it is clear. The condition is never the same in any two cases, and I feel very strongly that one should not attempt to establish a routine.

If a patient with head injury that has been properly diagnosed by study of the signs and symptoms, including the spinal fluid, does not show any response to the above treatment within a reasonable period of time the physician must stand ready to add to his diagnosis, of one of the commoner or fundamental forms of head injury, one of a more serious nature. It is our set rule that when the patient fails to respond to adequate treatment bilateral trephine openings are made under local in-

filtration anesthesia. This procedure will not jeopardize the patient's welfare and the information thus obtained amply justifies the risk. Accumulations of blood or fluid trapped in the subdural space will not be absorbed and the increase in intracranial pressure resulting therefrom can only be relieved by mechanical removal of these products. It has been extremely interesting to note the greatly increased frequency in the incidence of subdural and subcortical hematomata that have been clinically diagnosed by this method during the very recent past. Prior to 1931 only three cases of subdural hematoma were observed at the Boston City Hospital. I quote this clinic because of the large number of head injuries treated there annually. After the establishment of a department of neurological surgery to which head injuries were referred, and the institution of this method of treatment, more than 200 cases were encountered within a period of three years. This statement demands careful consideration, for it really means that unless this condition is diagnosed—and it can only be diagnosed by actual inspection—there ensues a 100% mortality in this group of cases.

The extradural or middle meningeal hemorrhages constitute the only acute surgical emergency in treating injuries of the head. Prompt evacuation of the clot and control of the bleeding point—or points—is essential immediately the diagnosis is determined. Here again trephination is urgently indicated, both as a diagnostic and life saving procedure. It should be borne in mind that the typical "lucid interval" so frequently described in text-books is often absent. It is not unusual for the secondary period of unconsciousness to be imperceptibly merged into the primary one, thereby taxing one's diagnostic ability and surgical judgment to the utmost. This condition is rapidly fatal if not promptly recognized and properly treated.

The time at my disposal is too limited to discuss subdural and subcortical hematomata in greater detail, but these conditions must be constantly borne in mind as possibilities when the patient does not respond to adequate treatment within a reasonable time.

In closing, just a word in regard to the treatment of fractures of the skull. The

simple linear fractures are of no importance except as an indication of probable serious damage to the underlying cortex. When a linear fracture traverses a middle meningeal groove it may be confirmatory evidence of a tear of the meningeal artery.

Depressed fractures should all be elevated, but not until the patient has completely reacted from the initial effects of the injury. There is more than a possibility of the development of convulsive seizures if this type of fracture is left untreated.

Compound fractures constitute a very definite problem in sepsis and should be treated according to very definite rules. The principle involved is that during the first 24 to 36 hours bacterial activity is limited to the wound itself and does not spread into the surrounding tissues. Nothing should be done that will tend to cause a spread of the infected area. For this reason one is perfectly safe in waiting until shock has entirely subsided before doing anything at all. The optimum time to operate is from 24 to 30 hours following the injury.

When the sterile palpating finger determines the presence of a compound fracture—and the sterile ungloved finger can do this better than the x-ray—absolutely nothing further is done at the moment except to apply a sterile dry dressing. Bleeding, if present, can be controlled by pressure. If shock is not actually demonstrable, presume that the patient is in potential shock and that any further procedure at this time may be just enough to throw the balance against him. The initial dressing should not be disturbed until the patient is being prepared for operation. The scalp should then be cleaned with soap and water up to the edges of the wound. This is followed by alcohol, ether and 1% iodine. The wound, hitherto untouched, should then be filled with 7% iodine by simply pouring it in—not rubbing it. An area of scalp surrounding the wound—but some distance from it—is then infiltrated with 1/2% novocaine adrenalin solution. All tissues that have been in contact with the outside are then completely excised. This may include skin, galea, pericranium, bone, dura and brain. The removal of damaged brain is essential and is the critical part of the procedure. If this is not done properly there is grave danger of the subsequent develop-

ment of abscess and later on convulsive seizures. Bleeding is controlled by muscle implants and brain clips and coagulation. The dura must not be left open. If the debridement has of necessity made it impossible to close the dura, fascia lata is transplanted for this purpose. In closing the scalp it is important not to have the sutures under tension. Fine silk should be the suture material throughout the entire procedure.

It is obvious that every one should be prepared to treat properly the fundamental, and by far the major, group of head injuries. It is equally obvious that once the patient becomes an operative case that this type of surgery which is highly specialized should only be attempted, all things being equal, by those who have acquired efficiency in the particular technique of brain surgery, and, furthermore, only in an operating room where efficient suction and coagulation units *that work* are available. Done under other circumstances the patient is subjected to grave risks and the operator is courting an unwarranted mortality rate.

The principles of treatment herein outlined have resulted in reducing the mortality rate in 1056 cases seen during the last three years from the former very high percentage of 46 to 14.6%. If only the fundamental group is taken into consideration the percentage drops to 8.4%.

THE DIAGNOSIS AND TREATMENT OF TUMORS OF THE BREAST*

By
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This paper is written with two thoughts in mind.

In the first place, the physician who does not have the opportunity to see a large number of tumors of the breast will be furnished certain methods of determining when breast pathology is present; and, secondly, he will have suggested a guide which will serve him when he is undecided as to the disposition of a case when tumor of the breast is proven or suspected.

Patients suspected of having tumor of the breast are divided into two groups,¹ one

in which no lump is palpable and the other in which a lump is palpable and the diagnosis is doubtful. When a woman appears complaining of pain in the breast it is absolutely necessary that her mental stability and constitutional make-up be considered and evaluated before one can decide as to the value of the subjective symptoms. While subjective symptoms cannot be considered an infallible guide yet they cannot be wholly ignored; for women with large breasts, who complain of sticking or needle-like pains, may have an early carcinoma, and these symptoms constitute the first evidence of cancer in 5% of cases.²

When the pain or discomfort complained of is always in a different region or when it is exaggerated at the menstrual period, we cannot attach too much importance to the complaint; but when it is definite discomfort in the same area at each examination and the pains are sharp or lancinating then a thorough objective examination must be made at repeated intervals in order to determine the significance of the symptoms.

Signs which are of great diagnostic importance are slight elevation of the nipple as compared with the opposite side, immobility of the nipple, dimpling of the skin and slight enlargement of the breasts, these changes being produced by connective tissue growth adjacent to the lesion.

After a thorough inspection of the breast has been made with special attention to the fixation of the nipple, slight elevation of the nipple, dimpling of the skin over the suspected area and size of the breast, then the breast should be palpated with the patient in both the upright and horizontal positions. Palpation should be done in the gentlest manner possible since there is always the possibility that malignant cells may be thrown into the lymphatics or blood stream by undue pressure. Since the breast is normally a nodular organ, it is at times very difficult to determine the presence or absence of a tumor; but when all signs point to the presence of a tumor or of malignant changes and although no definite mass can be palpated or found by any method, due to its incipency, then an explora-

*Read before the Association in annual session, Mobile, April 19, 1938.

1. Hertzler, Arthur E.: *Surgical Pathology of the Mammary Gland*. J. B. Lippincott Co., 1933, p. 104

2. Lee, Burton J.: *End Results in the Treatment of Cancer of the Breast by Radical Surgery Combined with Preoperative and Postoperative Irradiation*, *Am. J. Surg.*, (May) 1933, 20: 411.

tory operation should be done without any hesitancy or delay whatever.

When one considers the average duration of life in untreated cancer of the breast to be only 40.5 months after recognition of symptoms³ then one is impressed with the value of early diagnosis and treatment and the conclusion is that exploration must be done on all indeterminate lesions of the breast.

Another or additional reason for the exploration of a breast in these cases is that, more frequently than is appreciated, lesions, other than the ones found previous to exploration, are found during exploration, which are often of more importance and danger than the lesions or tumors for which exploration was advised.

In consideration of the patient in which a lump can be palpated, the immediate course of action is fairly simple; for it has been definitely agreed by practically all authorities that immediate excision with gross and microscopic examination should be the unalterable decision except that in definite carcinoma of the breast, in women under thirty years of age and in women who are pregnant, irradiation alone should be the treatment.⁴

Since the consensus of opinion is that any definitely abnormal lump or tumor of the breast should be immediately excised,⁵ then, to my mind, the only problem concerned in a small or early tumor is the one of definitely deciding that the tissue under examination is an abnormal lump or tumor.

To be able to determine whether a tumor or pathologic specimen exists I feel that one should have made routine examinations of a fairly large number of normal breasts during periodic or diagnostic physical examinations, for it is my opinion that the difficulties encountered in determining whether or not a tumor exists are usually due to lack of knowledge of the normal

breast which should have been gained from repeated examinations just as is the case in determining the presence or absence of diseased or tumor conditions in other parts of the body. I feel that it is just as negligent or culpable for one to fail to examine the breasts thoroughly during a general physical examination as it is to neglect a rectal examination when lower intestinal complaints are being considered.

Since this paper is not intended for the benefit of the man trained in the diagnosis and treatment of breast conditions, no highly technical discussion of treatment by radiation or operation or the combined operative and radiation treatment shall be undertaken here. Also, since methods of diagnosis are being considered which can be used by the general practitioner with only the aid of his natural senses, then discussion or recommendations as to the uses of transillumination, x-ray or mammography will not be considered.

Suffice it to say that no improvement has been made in the operation for removal of the breast since the time of Halsted, who advocated radical excision without delay when an early carcinoma of the breast is diagnosed.

SUMMARY

1. Definite subjective and objective findings which constitute sufficient evidence for recommendation of exploration or removal of suspected tumors of the breast are presented.

2. All definitely proved tumors of the breast should be removed without delay or hesitation.

The Responsibility of the Physician—Animal experimentation, together with the use of the basic sciences, has revealed a better knowledge and understanding of body functions, and this advancement has placed the practice of medicine in the field of select sciences. A school without thorough courses in the basic sciences is not teaching worthwhile medicine. There is no place in our profession for a lazy man or woman. The ideal physician, who is courageous, intelligent and industrious, will not stop working or accept anything for granted, but will use every means available for the completion of his duties and the execution of his responsibilities. The modern aids in diagnosis are not limited to the city, for the physicians in the smaller urban centers and in the rural communities have access to all present-day methods of diagnosis.—*Hannah, Texas State J. Med., June '38.*

3. Daland, Ernest M.: Untreated Cancer of the Breast, *Surg. Gynec. & Obst.* (Feb.) 1927, 44: 268.

4. Horsley, J. Shelton: The Diagnosis and Treatment of Malignant Tumors of the Breast, *The Southern Surgeon*, (Oct.) 1937, 6: 377-379.

5. Hertzler, Arthur E.: Surgical Pathology of the Mammary Gland. J. B. Lippincott Co., 1933, p. 105.

6. Newell, Cecil E.: Benign Tumors of the Breast, *The Southern Surgeon*, (April) 1937, 6: 162.

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SULFANILAMIDE

"It is now approximately three years since the new chemotherapeutic agent, prontosil, for the treatment of infections due to streptococci was presented to the medical profession. Whenever a new measure is introduced in therapeutics it is appropriate, after the accumulation of sufficient data, to review the evidence for and against, to learn especially the best method of application, and, most of all, to ascertain its limitations. In the case of sulfanilamide, the active principle derived from prontosil, this is particularly true because of the immediate enthusiasm with which it has been accepted." This is the opening paragraph from the recent article by Schnitker¹ in which he reviews the literature on prontosil and its derivatives. Published articles on these drugs since Damagk's original article in February, 1935 up to November 1, 1937 number two hundred and fifteen and, for the difficult task of examining them, we are indebted to Schnitker.

The Boston investigator informs us that "the method of choice in the administration of sulfanilamide is by mouth." He points out that the effects on body tissues, both

animal and human, have not been sufficiently studied and that "although many of the clinical results reported following sulfanilamide treatment have been striking, its effect on body tissues in terms of late pathologic changes caused by this drug remains for the future to disclose."

The author goes on to assert that "in throat infections, peritonitis, and osteomyelitis (except isolated instances of mastoiditis), the effects of treatment with this drug have not been remarkable." We are told that the results obtained in erysipelas, streptococcal cellulitis and puerperal infection have been favorable, though less good in scarlet fever. We are also informed that sulfanilamide has proved its value and is saving lives in meningitis, both streptococcal and meningococcal.

In regard to gonorrhea the author says that "the first reports were extremely favorable, but as data accumulated more and more failures occur," and that it is the chronic cases in which the drug seems to be the most effective. And he warns of a condition now becoming increasingly known when he says that "sulfanilamide may cause the organisms to disappear from the stained smears in from two to six days. However, this may give a false sense of security to both patient and physician as to adequate treatment and cure." In regard to urinary tract infections we are told that "sulfanilamide given by mouth has been found effective in the treatment of urinary sepsis due to *Staphylococcus aureus*, *Bacillus coli* and *Aerobacter aerogenes* . . . In infections due to *Streptococcus fecalis* the drug is ineffective. In general, bacillary infections respond more favorably than do those due to cocci."

The toxic effects of this new drug are extremely variable. "The mild symptoms consist of headache, anoxemia, vertigo and general malaise, with possible slight cyanosis and dyspnea . . . The severe reactions may result in persistent sulfhemoglobinemia, skin manifestations, hyperpyrexia or hypopyrexia, abdominal and chest pains, tachycardia, persistent dyspnea, diarrhea and numbness and tingling of the hands and feet. Marked disturbances of the blood, such as anemia, jaundice, leukopenia and agranulocytosis, may occur. The severe manifestations may result in collapse and death."

1. Schnitker, Maurice A.: Sulfanilamide: A Review. New England J. Med. 218: 503 (March 24) '38.

Schnitker advises that the blood be examined frequently for the possible development of anemia and his conclusion is as follows: "Sulfanilamide appears to have proved its worth as an effective chemotherapeutic agent in the treatment of certain infections. From the more important facts here summarized it can be clearly seen that it is not a panacea. Since there is no shorter road to the discredit of any drug than its indiscriminate use, emphasis has been placed upon methods of administration, dosages and toxic effects. Clearer indications and contraindications to its use and the possible deleterious effects of its long-continued administration have yet to be disclosed."

It is probable that several years will elapse before sulfanilamide finds its definite place in our therapeutic armamentarium. But it is high time that its indiscriminate use cease, that it be administered only by physicians to patients whom they can keep under observation, and that its over-the-counter sale be permanently discontinued.

SAN FRANCISCO SESSION OF THE AMERICAN MEDICAL ASSOCIATION

At the 1937 session of the American Medical Association, held in Atlantic City, the House of Delegates created a special committee to be known as the "Committee on Distinguished Service Awards of the American Medical Association," the purpose of which being to give recognition each year to one member of the profession for meritorious services in the science and art of medicine. It was peculiarly gratifying to the profession of the South—yet withal most fitting—that this first award should have been bestowed upon one of its own beloved members—Dr. Rudolph Matas, of New Orleans, at whose feet so many Southern physicians have sat and have received medical inspiration. Although himself not present, it was reported that he, when notified of this action, was deeply moved by this new honour heaped upon him.

Quite naturally, many resolutions were introduced and received consideration, bearing on the economic, sociologic and business aspects of the profession and of hospitals.

At the Wednesday afternoon session of

the House of Delegates a paper prepared by Miss Josephine Roche, Chairman of the President's Interdepartmental Committee, and who was unable to be present, was read by Assistant Surgeon General Draper, of the United States Public Health Service. On July 18, 19 and 20, this Committee will meet in Washington, when a full report will be submitted and discussed and in which representatives and officers of the American Medical Association will participate.

Dr. W. F. Braasch, Chairman of the special committee of the American Medical Association for the survey of medical needs and care, also made a report of the progress being made in the several states and urged the members of the House of Delegates to use every effort to make the survey as successful as possible.

Another opinion expressed through the House of Delegates related to the showing of the film "The Birth of a Baby" to lay audiences. The House went on record as endorsing the great educational value of the film, with the caution that it be limited to adults.

Turning to the scientific side of the meeting, we find almost every phase of medicine covered in the programs of the various sections. Of the many excellent contributions made was that by Spies, from the Birmingham Pellagra Clinic, on his most recent studies and investigations of nicotinic acid in the rapid control of the symptoms of this disease. Every physician in this State will do well to familiarise himself with these newer advances, for the reason that the incidence of pellagra seems definitely to be on the increase during this present year.

The scientific exhibits, most of which had section members in attendance for purposes of explanation and demonstration, were many and of exceptionally high order. The same may be said also of the commercial exhibits. The attendance, considering the great distance of San Francisco from the more populous East, South and Middle West, proved exceptionally good—approximately 6,000.

The Association selected as its president-elect, and without opposition, Dr. Rock Sleyster of Wisconsin. Dr. Sleyster has been associated with the House of Delegates and the Board of Trustees for many years, having served several years as chairman of the latter. He is an outstanding psychia-

trist. It may truthfully be said that the affairs of the Association will be in safe hands during his tenure of office.

The temperature and climate in California were ideal and the citizens and profession of San Francisco exerted every effort

to make the meeting enjoyable and merit the highest praise for the success of their efforts.

St. Louis was chosen as the meeting place for 1939, with New York in 1940, followed by Cleveland in 1941.

TRANSACTIONS OF THE ASSOCIATION

1938 SESSION

(Concluded)

Last Day, Thursday, April 21

The Association, sitting as the Board of Health of the State of Alabama, was called to order at 9:30 A. M. by the President, Dr. E. S. Sledge.

The report of the Board of Censors was rendered by the Chairman, Dr. E. V. Caldwell.

THE SIXTY-FIFTH ANNUAL REPORT OF THE STATE BOARD OF CENSORS INCLUDING ITS REPORTS AS THE STATE BOARD OF MEDICAL EXAMINERS AND AS THE STATE COMMITTEE OF PUBLIC HEALTH

E. V. Caldwell, M. D., Chairman

The State Board of Censors, in conformity to constitutional mandate, has the honour to submit to this Association its Sixty-Fifth Annual Report.

PART I

AS A BOARD OF CENSORS

THE YEAR IN RETROSPECT

The Board is happy to be able to again direct attention not only to the fine esprit de corps now universally prevailing throughout this Association but also to an awakened interest on the part of its membership in important fields of endeavour—scientific, economic and sociologic—which should rightfully claim attention at the hands of the medical profession. Such an attitude is reflected in the reports submitted at this meeting by the various officers and standing committees of the Association, to which more specific attention will be directed later.

Last year, this Board took occasion to point out the important legal responsibilities resting on county medical societies and made to them specific recommendations regarding the adoption of suitable constitutions by each county society to

govern their actions; requesting, at the same time, that this Board be notified when such action, if needed, had been taken. The notifications thus far received indicate that quite a number of the medical societies have not taken this important step. The Board, therefore, reiterates its plea for prompt action in this regard by those societies which have not provided themselves with constitutions. Furthermore, in this connection, the holding, by each county medical society, of an authentic charter from this Association is a matter of great importance in the discharge of their legal duties. In 1912, such charters were reissued to all medical societies. In a recent check made by the Secretary of the Association, it was revealed that considerably more than one half of the societies had either misplaced or lost their charters. The Secretary recommends that duplicate charters be issued to all counties, needing them, in inexpensive frames and at the expense of the Association. In this recommendation the Board concurs; and urges upon county medical societies the need for preserving this document in a place of safe keeping, together with its duly adopted constitutions.

The Board's recommendation was adopted.

THE STATE'S MEDICAL POPULATION

The Association's Secretary in his annual report to you has presented a rather exhaustive and comparative analysis of the present medical population of this state and its distribution, with that existing twenty-five years ago. The many illuminating facts brought out in this comparative study—particularly the actual loss in numbers over this period of 425 practising physicians, and the pronounced trend toward concentration of physicians in urban centres with a consequent paucity in the vast rural sections of the state—are matters of real and vital concern to both the medical profession and to our people. So great has been the loss of physicians in quite a number of our most rural counties—in some instances 75 per cent—that in one rural county we find one physician to each 3,350 of population; this in

striking contrast to the average in the United States of one physician to each 780 of population and the present average in this state of one physician to each 1,345 of population. Added to the above significant facts, the Board directs attention also to the advancing age of many of the practitioners now residing in these rural areas, whose activities and ability to serve will, with the passing of years of necessity, become more circumscribed. The facts revealed in this study are not limited to the profession of this state; they prevail throughout the country, being accentuated in those areas whose populations are predominantly rural, as is the case in Alabama. While the Board would not presume to suggest a specific remedy for an economic problem so complex, it does feel that it is incumbent upon it to direct the attention of this body to changes now taking place within its own structure—changes which inevitably carry far-reaching implications for the medical profession and upon which serious thought and study should be concentrated. Unquestionably, the absence of adequate professional economic security and suitable facilities for practising modern scientific medicine have been important factors in a failure to lure the young practitioner to our more rural communities. The Board suggests that every effort be put forth through the organised profession in each county to encourage local authorities to provide better workshops, in the way of hospitals and of hospital care, as well as to make what contribution it can toward the elevation of the present low economic level of our rural population.

The Association concurred in this expression of the Board.

NATION-WIDE SURVEY OF MEDICAL NEEDS BY STATE AND COUNTY MEDICAL SOCIETIES

In appreciation of the importance, on the part of state and county medical organisations, for more accurate information as to the medical needs, both preventive and curative, and the existing machinery for supplying such needs in the respective states, counties and municipalities, the officers and Board of Trustees of the American Medical Association, upon request for co-operation made by the American Public Health Association, adopted, in December 1937, the following resolution:

"Whereas, A varying number of people may at times be insufficiently supplied with needed medical service for the maintenance of health and the prevention of disease; and

"Whereas, The means of supplying medical service differ in various communities; be it

"Resolved, That the American Medical Association stimulate the state and county medical societies to assume leadership, securing cooperation of state and local health agencies, hospital authorities, the dental, nursing and correlated professions, welfare agencies and community chests in determining for each county in the United States the prevailing need for medical and preventive medical service where such may be insufficient or unavailable; and that such state and county medical societies develop for each county the preferable procedure for supply-

ing these several needs, utilising to the fullest extent medical and health agencies now available, in accordance with the established policies of the American Medical Association. Be it further

"Resolved, That the Board of Trustees of the American Medical Association establish a committee to cooperate with the Bureau of Medical Economics in outlining the necessary procedures for making further studies and reports of the prevailing need for medical and preventive medical services; and that the Secretary of the American Medical Association arrange to develop such activities through the secretaries of state and county medical societies in each instance, urging the formation of special committees in each county and state where committees are not available for this purpose."

In compliance with the provisions of this resolution, the American Medical Association has furnished to all state medical associations, through their secretaries, sets of questionnaires to be distributed to their component county medical societies, with an urgent plea that every assistance be given by state organisations to county societies, in an effort to make the study as accurate, comprehensive and as useful as possible. The Board is quite mindful of the fact that this survey, if competently and painstakingly done, will entail no little effort on the part of the membership of each county medical society; yet it also feels that the knowledge gained by local medical groups, through such a firsthand study on their part, should prove tremendously helpful in attempts to offer constructive suggestions looking to workable solutions. The Board further feels that, because of the unique and intimate relationship existing in this state between organised medicine and official health work and with health activities, manned by a full-time medical officer, functioning in each of its sixty-seven counties, we are in strategic position to creditably perform this task. It is therefore recommended that our State Health Officer be requested to place at the disposal of this Association the personnel and machinery of his department to aid the county medical societies in this important undertaking.

The recommendation of the Board was adopted.

POSTGRADUATE MEDICAL STUDY AND REFRESHER COURSES

At the annual meeting of this Association in 1935, this body approved the allocation of Association funds, not to exceed \$300 annually, for the purpose of promoting postgraduate lecture courses for physicians in the more rural sections of our state. In order to further promote this activity, President Thigpen, in his annual message, in 1936, recommended, and this Association approved, the creation of a standing committee on Postgraduate Study. This Committee, already, has made commendable headway. Because of the close interlocking of the organised medical profession with the administration of all health affairs within the state, and in the absence of a four-year medical school from which might radiate teaching in the clinical branches of medicine,

this Board has encouraged, in so far as financial restrictions would permit, the employment by the central health department of specialists in certain fields of medicine having immediate and direct public health implications, such as tuberculosis, the venereal diseases, pediatrics, obstetrics, maternal and child health and oral hygiene. Inasmuch as the work and programs of these specialists have been largely of a consultative and educational nature for rural practitioners, their services have been well received and of unquestioned value. Effort has also been made to further supplement this educational program by having out-of-date lecturers give short courses at certain strategic points over the state. Organised medicine the country over and in practically every state, sensing this as one of the acute needs of the profession, has, through state medical societies and the American Medical Association, sought to develop and expand educational programs of this nature.

Philanthropic organisations—particularly the Commonwealth Fund—have gladly lent aid in this field. In several Southern States—notably in Louisiana and Mississippi—such educational programs are being sponsored and financed jointly by the state medical association, the health department and the Commonwealth Fund. At one of the recent meetings of this Board such a joint program for Alabama was given consideration. In view of the fact that, through our own health department staff, certain clinical fields are already being partially covered, the Board feels that effort should be made for refresher courses in diagnosis and general medicine. This program calls for:

(a) An appropriation on the part of the Association;

(b) An appropriation on the part of the State Health Department; and

(c) A small registration fee on the part of the physician attending.

At the meeting of the Board, held Monday evening, April the 18th, and after the presentation of a plan for extension courses by Dr. Maxwell E. Lapham, Director of the Division of Medical Extension of Tulane University, and also after a careful consideration of the Association's present finances and revenues, it was voted to recommend for approval by the Association the following:

(1) That the Association go on record as approving a plan for providing postgraduate and refresher courses for the physicians of this State;

(2) That an amount of Association funds not to exceed \$1000 annually be used during the next three years for this purpose;

(3) That a fee of \$5.00 be charged each physician desiring to participate in the course; and

(4) That the selection of subjects to be presented, together with the working out of the necessary details connected with such courses, be left to the State Board of Censors, working in close co-operation with the Association's Committee on Postgraduate Study, and the Director of these extension courses connected with Tulane University.

The Board's recommendations were approved.

FUTURE PLANS OF THE HEALTH DEPARTMENT

The closing months of the year 1937 witnessed the consummation of a policy of this Association, clearly and definitely announced many years ago, of its wholehearted support of full-time health organisation for every county within the state. As one reviews the gradual evolution and growth of this undertaking, as recorded in the annual proceedings of this Association, it is there seen that this has been no easy task. Progress along new and unfamiliar lines, directed towards community betterment, is necessarily slow and must await the "catching-of-step" on the part of the average mind. A willingness to participate, on the part of any community, actively and financially in any particular program, is largely dependent upon this factor, granting, of course, the cause be a worthy one. The sustained advocacy and leadership, furnished throughout the years of this building-up process by this Association and its membership in each and every county of the state, have been large contributing factors in the fertilisation of the lay mind necessary to the attainment of this goal. Complete organisation, on a full-time basis, for every county of the state is an accomplishment of which no other of the states of the deep South can boast and of which this Association may rightfully feel proud. However, it must be remembered that the personnel in many of these organised units is minimal and not yet adequate for the conduct of well-rounded health programs. In this connection, the Board desires to direct attention to the urgent need for more intensified activities in certain fields which have been, and are now, distinct menaces to the health of our people. These fields lie largely in the domain of the control of tuberculosis, the venereal diseases and malaria, of maternal and child health, of mental and oral hygiene, and of better medical care for the low-income groups. In order to adequately cope with these newer problems, the continued and enlightened leadership of the profession, both state-wide and locally, will be necessary to point the way and show the need. Local appropriating bodies must be encouraged to further strengthen their own health units through increased appropriations on their part to aid in caring for these important new activities. Likewise, if these larger needs are to be properly met, it appears that the present appropriation made by the last legislature for the conduct of health work in this state—which amount still represents a marked reduction in the funds available in 1930 for this purpose—should be reasonably increased. This Board, cognisant of these needs and of the fact that, before the next annual meeting of this body, a new legislature will be in session, plans to give, in co-operation with the State Health Officer, mature consideration to the important problems touched upon above. Looking to this end, it is important that this Association now go on record as giving its endorsement and support of the forward-looking programs now under contemplation by its health department. The Board, therefore, submits for your consideration and approval the following resolution:

Whereas, The protection of the public health

is basic and fundamental, representing the foundation upon which future progress must be built; and

Whereas, Through the continuing support and efforts of this Association, which constitutes the State Board of Health, complete organization for health work in every county in the state has been attained; and

Whereas, Through the vision displayed by the last legislature in making available to counties additional revenues to be specifically applied to their health needs, this end has been made financially possible; and

Whereas, The State's general revenues have been materially increased by the recent enactments of this legislature; and

Whereas, During recent years many essential and necessary health activities have been curtailed or suspended, because of lack of funds, both state and local; therefore, be it

(1) *Resolved*, That the Medical Association of the State of Alabama, as the legally constituted State Board of Health, reposing confidence in the State Board of Censors and its executive, the State Health Officer, and appreciating the need for a more expanded health service for the protection of our people, gives full endorsement to the contemplated plans looking to a broadening and strengthening of health services throughout the state; and be it further

(2) *Resolved*, That the State Board of Censors of this Association, acting as a State Committee of Public Health, and the State Health Officer, be instructed to present to the next legislature a comprehensive outline of the state's present health needs together with such changes in or additions to existing health laws and appropriations necessary to attain this end; and be it further

(3) *Resolved*, That local governmental agencies, county and municipal, be urged to make the financial provisions necessary to provide adequate health protection for those within their jurisdiction.

The resolution was adopted by the Association.

CONTEMPLATED LEGISLATION

In further elaboration of the broad principles enunciated in the foregoing resolution, and particularly in Section 2, dealing with legislation, the Board desires to make specific mention of the following items which should receive this Association's attention and approval:

1. Amending the present marriage laws by requiring, of both contracting parties, certain laboratory examinations and reports prior to the issuance of a marriage certificate. At present the law applies only to the male and does not include any laboratory tests. Already five states have such laws and others will likely soon fall in line. Because of the aroused consciousness of the general public as to the need for a better control of the venereal diseases, it is felt that the time is opportune for this Association to endorse and to sponsor advanced legislation of this nature.

2. Increase of present state subsidy to counties for the maintenance of tuberculosis sanatoria.

The interest on the part of county governments

to make more adequate provision for their own tuberculous has shown, in quite recent years, a marked and encouraging growth. It has been only within the past year that this subsidy has been made available to counties, which has proven of tremendous value to them in further enlarging their activities and in stimulating interest. As a consequence, many of the counties are giving serious thought to this problem and are forging ahead with plans of construction. To meet this expansion, the present state appropriation for aiding in the maintenance of district and county tuberculosis sanatoria should be increased to such a point as that the state may adequately discharge its responsibility in this important program.

3. A reasonable increase of present state appropriation for health work.

With the completion of county organization throughout the state and the contemplated expansion of health services into several fields thus far but poorly and inadequately covered, it is felt that a reasonable increase in the present appropriation now being made by the state will be required. As stated above, in the interim, the department's finances and needs will receive careful study at the hands of the Board. These matters are now being presented for your consideration and approval.

Approval was given.

RESEARCH STUDIES IN PUBLIC HEALTH

Last year, the Board directed attention to certain research activities in the public health field, which had been inaugurated in our state, and pointed out the stimulating value of such studies both to our health department and to the medical profession at large. These investigations have had to do with some of the unanswered problems in the field of rabies, tuberculosis and malaria. At this time, the Board takes pleasure in announcing that during the past year substantial progress has been made in all of these studies. Of particular interest to the members of this Association should be the scientific experimental work in rabies now going on in Montgomery under the able direction of Dr. C. N. Leach, of the Rockefeller Foundation. This work is being conducted in special laboratories erected on state properties and in close association with the health department's central laboratories in Montgomery, and is already attracting the attention of scientific workers throughout the country. Of no less importance in the promotion of the health of our people are the investigations being carried on in the fields of tuberculosis and malaria with assistance of the United States Public Health Service and the medical department of the Tennessee Valley Authority.

The Board also takes pleasure in calling attention to that section of the State Health Officer's report dealing with the East Alabama Health District Study in Administrative Procedures. In the development of this study, out of which the State Health Officer hopes much valuable information may come for his future guidance in determining sound administrative policies, both the Commonwealth Fund and the

Rockefeller Foundation are making substantial contributions, not only in a financial way but also by placing at our disposal their trained staff of public health consultants and advisers. The Board, therefore, feels that an expression of appreciation and thanks from this body to all of these contributing agencies would be both appropriate and timely, and it so recommends.

The Association adopted the recommendation of the Board.

PENDING FEDERAL LEGISLATION

There are now pending in Washington before the Federal Congress several bills of such important public health significance as to command consideration at the hands of this body and to which this Board desires briefly to direct attention:

A

FEDERAL FINANCIAL PARTICIPATION IN A NATION-WIDE PROGRAM FOR THE CONTROL OF VENEREAL DISEASES

The Executive Health Officer of this Association has joined with other state health workers in seeking to obtain favourable action in Congress upon the LaFollette-Bulwinkle Bill providing for federal aid to states for an intensified campaign against the venereal diseases. This measure, which has the approval both of the United States Public Health Service and of the Conference of State Health Officers, provides for an appropriation of \$3,000,000 the first year, \$6,000,000 the second year, \$12,000,000 the third year, and \$25,000,000 for each of the following ten years. It authorises the Surgeon General of the United States Public Health Service to apportion these sums among the forty-eight states, Hawaii, Alaska, and the District of Columbia on the basis of population, the seriousness of the venereal disease problem in the various states, and the states' financial needs. It also provides for the establishment of a Venereal Disease Division in the United States Public Health Service, which division would be required to study and investigate the causes, treatment and prevention of syphilis and the other venereal diseases and cooperate with the state departments of health in the inauguration of measures for the prevention and control of these diseases.

The Governor of our State and the State Health Officer have sent letters to our Senators and Congressmen, and to Senator Royal S. Copeland, Chairman of the Senate Committee on Commerce, calling attention to the seriousness of the venereal disease problem in Alabama and urging their support of this measure. Letters were likewise sent to members of the Senate Committee on Commerce and the Committee on Interstate and Foreign Commerce of the House of Representatives, urging their support. The State Health Officer also prepared, for the information of congressional committee members and others, a statement describing the venereal disease problem in Alabama and calling attention to the need for an intensified campaign against these diseases in this state.

Approximately 37 per cent of the total population of Alabama consists of Negroes, and the

great prevalence of the venereal diseases among this race makes these diseases a problem of grave importance in this state. Conservative syphilologists estimate that approximately one-fourth of all the Negroes in Alabama are infected with syphilis. On the basis of such estimate, there are nearly 268,000 cases of this disease among the state's colored population. Its prevalence among the white population has been estimated at about eight per cent. Thus, there are probably between 400,000 and 425,000 syphilitics in this state at the present time. If all of these could be concentrated in a single community, that community would constitute the state's largest city, with a population larger than that of Birmingham, Montgomery, and Tuscaloosa combined. It would be the largest American city south of the Potomac and Ohio Rivers, with the single exception of New Orleans.

In 1936, the latest year for which complete statistics are available, syphilis alone was directly responsible for more than 5 times as many deaths as typhoid fever, nearly 19 times as many as were caused by measles, nearly 38 times as many as were due to scarlet fever, and nearly one-ninth as many as were the result of heart disease, by far the largest single cause of death in the state. If we include the approximately 725 other deaths for which syphilis is believed to have been indirectly responsible, we find that it ranked in eighth place as a cause of death in Alabama. The number of reported cases of syphilis was greater last year than that of reported cases of any other disease except influenza. The total number of reported cases of syphilis and gonorrhea combined far exceeded that of any single disease regarding the prevalence of which the State Department of Health has any records.

As a result of the completion of county health organisation in Alabama, making this the only state south of Maryland and one of only three states in the entire country giving the benefits of a county health department to every resident within its borders, Alabama is in a particularly favourable position to carry on an effective campaign against the venereal diseases, particularly in the rural communities, where are to be found more than two-thirds of the state's total population. Working in co-operation with county medical societies and other local groups, the state and county health departments have carried on as active and vigorous a campaign of this kind as their limited finances would permit, and this campaign has been productive of gratifying results. The results to be expected from an intensified drive carried on simultaneously on 67 fronts and properly financed with the aid of federal funds should quickly and definitely lead both to improved health conditions amongst our people and to an increased efficiency and productivity.

B

FEDERAL PURE FOOD AND DRUG LAWS

The tragic death last autumn of five persons in this state and many more in other states as a result of taking elixir sulphanilamide, usually on a doctor's prescription, emphasised, as few things could, the need for drastic revision of the

present outmoded federal pure food and drug laws for the more effective protection of the public. In this connection, the Board desires to commend the State Health Officer and his entire staff for the prompt manner in which the medical profession and the general public were warned of the dangers of this particular preparation whose safety, before being marketed, had not been determined.

There is now pending in Congress a drastically revised version of the original Copeland Bill introduced several years ago. While the original measure contained provisions that would go far toward affording this needed protection, it is the all but unanimous opinion of the medical profession and of health workers that the measure in its revised form fails to make any worth-while contribution in the way of affording such protection.

This Board and your State Health Officer heartily endorse the stand taken by the Conference of State and Provincial Health Authorities of North America on January 19th of this year, when, in executive session, it adopted resolutions criticising pending food and drug legislation on the ground that this legislation "provides for an enforcement procedure against false advertising that will ordinarily have no deterring influence against the commission of first offenses" and registered the Conference's "vehement opposition" to legislation designed to control false advertising but failing to provide penalties, relying instead, primarily, upon the issuance of orders to cease and desist from a continuation of the offense." This Board also heartily shares the conviction of this Conference that "regulation by such procedure has already demonstrated itself to be ineffective, inadequate, and utterly incapable of securing for the public the protection so badly needed."

It is the feeling of this Board that, inasmuch as the Copeland Bill has lost most of its original value as an agency for providing adequate protection to the consuming public, as a result of amendments to which it has been subjected since its introduction, it should be discarded entirely and a completely new bill introduced. This new bill should include the following provisions:

(1) Federal jurisdiction over false advertising as a means of circumventing greedy manufacturers of foods and drugs who avoid actual conflict with the existing law by placing no false or misleading statements on the labels of their products but flagrantly disregard the spirit and purpose of that law by making blatantly deceptive and misleading statements in their advertising campaigns, particularly on the radio;

(2) More adequate control of food products containing ingredients either actually or potentially poisonous, thus providing a means of reaching that group of food vendors who take refuge in the stipulation of the present law providing immunity from prosecution to those who do not actually add poison to food, and remedying at the same time a defect of the present law by which conviction on charges of adding poisons to foods may be obtained only upon the testimony of expert toxicologists to the effect that

the quantity of added poison in the food may be harmful to health;

(3) Authority to establish standards and definitions for all food products;

(4) The manufacture only under special permits of food that may be injurious to the consumer, such permits to be issued only after strict sanitary regulations for the operation of canning plants, factories, etc., have been complied with;

(5) Strict curbing of the making of false claims regarding the curative powers of products sold for the treatment of various illnesses;

(6) Proper and truthful labeling of all foods and drugs;

(7) Much more severe penalties for violations of pure food and drug laws, so as to prohibit the continued operation of certain illegal food and drug manufacturing businesses through the payment of small fines having little or no deterrent effect upon their operators; and

(8) Designation of the Pure Food and Drug Administration, rather than a semipolitical agency like the Interstate Commerce Commission, as the official enforcement body to insure the proper observance of these provisions.

C

REORGANISATION PLANS FOR THE ADMINISTRATIVE STRUCTURE OF THE FEDERAL GOVERNMENT

Congress has recently been called upon to consider four separate, though somewhat similar bills, to reorganise the civil administrative agencies of the executive branch of the Federal Government. Some of these measures, providing for the establishment of a Department of Welfare and the administration by such department of the laws relating to public health and sanitation, are of vital concern to the entire medical profession of this country.

This Board and the State Health Officer join the Board of Trustees of the American Medical Association and numerous other groups and individuals in opposing the passage of either of the measures now under consideration, and in urging that, instead of being made a subservient part of a new department created to administer a wide variety of governmental services, the public health agencies be consolidated into a Department of Health, with representation in the President's Cabinet on the same basis as the other regular departments of the Federal Government.

It is estimated that the United States Government spends more than \$100,000,000 a year for the operation of its 24 agencies now engaged in the promotion of public health. These 24 agencies carry on their work as functions of no less than five federal departments headed by members of the President's Cabinet. It is true that all of these agencies are not exclusively or even essentially public health agencies; but all of them make contributions of varying importance to the health and physical well being of the people of the United States. Even if it is found to be impracticable to include all of these in the proposed department of health, those which perform health service only incidentally may properly be

retained as members of the larger governmental units of which they are now a part, and should be administered much more efficiently and with greater benefit to the public as a result of the establishment of the proposed department of health.

One of the very obvious benefits to be expected from a single, well integrated department of health is a vast improvement in the morale of the various federal medical services and the increased attractiveness of public health service to men and women of superior training, experience and ability. It is axiomatic that a single large organization will offer more promising opportunities for promotion and distinction in one's profession than a number of small, widely scattered units playing more or less minor roles in a larger pageant. Under the proposed arrangement public health, safety and sanitation would comprise one of seven generic interests to be served by this new department. Among the other six are some having little, if indeed anything, in common with the promotion of public health. Into the suggested new department will be grouped education, the protection of the consumer, the relief of unemployment and of the hardship and suffering caused thereby, relief of the needy and distressed, vocational rehabilitation of the physically disabled, etc. In the present state of scientific medical knowledge and the nation's need for the application of such knowledge, no hampering restrictions should be placed upon the machinery designed to render so important a service as public health.

Therefore, in the light of what has been stated above, this Board recommends that this body go on record as approving the creation within the Federal Government of a distinct Department of Public Health without submergence in, subordination to, or fusion with, any other department or departments.

The Board's recommendation was adopted.

D

CONTROL OF STREAM POLLUTION

Two bills for the control of stream pollution were introduced some time ago in Congress. They were known as the Lonergan-Pfeifer Bill and the Barkley-Vinson Bill. While the announced objectives of these bills were essentially the same, having as a chief objective the reducing to a minimum the pollution of the navigable streams of the United States, they differed widely in their conceptions of the methods to be employed in attaining this worthy objective. The Barkley-Vinson measure provides aid and encouragement to the individual states for the launching of water pollution corrective measures, leaving responsibility for carrying on this work with the states themselves; while the Lonergan-Pfeifer Bill disregards state boundaries and places this work entirely in the hands of federal agencies.

In addition, the Barkley-Vinson Bill provides for the establishment in the United States Public Health Service of a Division of Stream Pollution Control; and further, that this division co-operate with state water pollution authorities;

that it encourage co-operative activities by the several states in the enactment of uniform laws relating to water pollution and in the formulation of interstate compacts for its control; that provision be made for grants-in-aid and loans for the civil divisions of states and for loans to private corporations for the construction of necessary remedial treatment works, and that a suitable sum be made available to the United States Public Health Service for studies in the development of comprehensive plans for this purpose.

Just before the regular session of Congress ended last year, Senators Lonergan and Barkley reached an agreement whereby both their pollution bills were withdrawn in favour of what became known as the Vinson Bill. The measure now awaiting action by the national law-making body contains a senate amendment providing federal enforcement of water-pollution measures by injunction.

Objection to the employment of federal, rather than state, agencies for instituting and administering water pollution measures, has been expressed by the Conference of State and Provincial Health Authorities of North America and health authorities in many states, who strongly feel that the provisions as set forth in the original Barkley-Vinson Bill should be preserved. Our State Health Officer, who, in conjunction with his Chief Sanitary Engineer, has given this matter careful consideration and study, feels that, in Alabama, as elsewhere, something more effective than arbitrary decrees from distant federal agencies is necessary for the proper solution of these problems; that each problem of this kind presents difficulties peculiar to itself and that local authorities, backed by local public opinion, are best able to assume responsibility for these matters.

These questions, briefly presented above, while national in scope, have an immediate and important bearing on this state and this Association. The Board, therefore, recommends that your approval be given to views herein expressed, and that copies of the action taken on these matters be furnished the President of the United States and to Alabama Senators and Congressmen.

The Association adopted the Board's recommendation.

RESOLUTIONS FROM COFFEE AND WILCOX COUNTIES

The following resolutions from Coffee and Wilcox Counties were introduced before this Association and referred to the Board:

"Whereas, the Coffee County Medical Society has entered into an agreement with the Coffee County Health Association, an organization of the clients of the Farm Security Administration, to render medical and surgical aid for the year 1938 to these Farm Security Administration clients; and

"Whereas, Data of this plan have been sent to Dr. John A. Martin, Chairman of the Public Relations Committee, in the form of answers to questions, and copies of this reply to Dr. Martin have been mailed to Dr. J. N. Baker, State Health

Officer, the President of the State Medical Association, and to each member of the State Board of Censors; and

"Whereas, This plan has been in operation since January 1, 1938 and is satisfactory and workable for the first three months of this year; and it is the desire of the members of the Coffee County Medical Society to uphold the high standards of ethics of our profession and also to render even a greater service to help the rehabilitation of these rural people along with other people; therefore be it

"Resolved, By the Coffee County Medical Society in regular session April 7th, 1938, that we request the Board of Censors of the State Medical Association to review our plan in connection with any other plans presented to them for their consideration.

"We further ask that some state-wide plan be adopted by which this practice can be done in conformity with the ordinances of the State Medical Association and the Code of Ethics of the American Medical Association."

"Whereas, The Farm Security Administration has for some months past requested that the Wilcox County Medical Society present some plan acceptable to the Society, the Administration and to their clients for rendering medical aid to the clients of the Farm Security Administration; and

"Whereas, All plans so far proposed by the Wilcox County Medical Society, as well as other county societies, have been found unethical or unworkable, and, desiring to uphold the high standard of medical ethics; and also to render this service to the clients of the Farm Security Administration, the Wilcox County Medical Society requests, urges and insists that the Medical Association of the State of Alabama take a definite stand and adopt some ethical state-wide plan, at this meeting; therefore be it

"Resolved, By the Medical Association of the State of Alabama, that we request the State Board of Censors to recommend, for adoption at this meeting, a definite proposal, state-wide in application, which will meet the needs of the clients of the Farm Security Administration and, at the same time, allow all ethical physicians to participate."

In order that this Association may act wisely and soundly upon the problems embraced in these resolutions, the Board deems it expedient, at this time, to briefly recount the rather long history of the evolutionary changes which have taken place within the organization, bearing on the question of medical contracts. Before doing so, the Board desires to take this opportunity of expressing its appreciation and thanks to the Association's standing Committee on Public Relations, which has laboured untiringly in receiving and compiling much valuable data upon which the report of this Committee has been based and which has been of tremendous assistance to the Board in its deliberations. For this service, it is felt that the liberal plaudits of this Association have been merited.

Nearly fifty years ago, when the vast natural resources of the mountainous regions of our

state, coupled with the rapid growth of railway transportation facilities, had begun to lure capital and industry to our midst, the members of this Association first took cognisance of our changing social order and were prompted to adopt regulations to make ethical certain contractual agreements between its members and representatives of industry. To fully comprehend the contractual difficulties which, from time to time, have arisen within our organization, one must bear in mind that, while these difficulties, geographically speaking, primarily effected a comparatively small section of the state, yet, from the standpoint of membership and influence in this Association, they were of such ethical importance to the profession as not to be ignored. Consequently in its incipency such a step was considered necessary by this Association, primarily for three reasons: (1) the legal responsibilities imposed upon it as a State Board of Health called for a statesman-like approach to a problem involving the health and general welfare of a considerable and growing segment of the state's population; (2) the desire on the part of the medical profession to make a substantial contribution to the economic upbuilding of our state, and (3) to safeguard the traditions and ethical standards of the profession from the possible polluting influences of commercialism. When taking such a step the members of this Association were, then, as they are now, quite mindful of the possible damaging effects to the profession's ethical code which would likely result from an indiscriminate and unrestrained application of contracts to the practice of medicine. In order to forestall these threatening dangers which might arise from within the organized profession itself, wisdom and expediency prompted the formulation of regulatory ordinances which sought to define ethical conduct as it relates to contracts. Thus came into being, in 1890, the Association's first ordinance dealing with this delicate matter.

From time to time one observes certain alterations in the original ordinance being made, in an effort to meet changing conditions and to more satisfactorily adjust medical practice to the demands being made upon the profession.

The first change came in 1900—ten years after the ordinance was first adopted—in which effort was made to place the responsibility of disciplinary enforcement, as pertained to the ethical conduct of an individual member upon the county medical society in such way as each might deem fit.

The second change came eight years later—in 1908. At this time, it appears that the enforcement clause referred to above had proven unsatisfactory and impracticable and, therefore, was deleted; in addition, the existing ordinance was made more definitive, by setting forth with whom contracts were to be made; that is to say, with the proper official of the agency concerned.

From the year 1908 to the year 1915—save for a minor resolution in 1910, which did not alter the content of the ordinance—the recorded annals of the Association do not show that this question came up for consideration. However, at the annual meeting in 1915, the Board of Cen-

sors of Jefferson County submitted, for the Association's consideration, a report which had previously been submitted to the Jefferson County Medical Society, in which eleven (11) types of contracts then prevalent in Jefferson County were enumerated, and memorialised the Association to "so change its ordinances on contract practice as to better conform to advancing conceptions on the freedom of contract and to advancing conceptions on the economic and social desirability of co-operation." It is interesting to observe that, of the eleven types submitted, the Board's evaluation was that one was ethical; four questionable and six in violation of the existing ordinance. In the acrimonious debates which followed the Board's report, it became manifest that definite action should be postponed; and, upon the request of the Chairman of the Board, it was voted to have this matter carry over until the following year.

In 1916, this question again, upon the Board's recommendation, was continued.

In 1917, the Board made the following recommendation to the Association, which was adopted:

"After carefully considering the question of contract practice in all of its phases, the Board believes that the best interests of the Association will be conserved by reaffirming the former rulings on this subject and reiterating its pronouncements found on page 43 of the Compend and on pages 129 to 137 inclusive of the Transactions of 1915."

It will thus be seen that, despite the rather large array of factual evidence submitted, indicating that all was not well within the Association from an ethical point of view, no change was made in the existing ordinance.

However, during this span of years now under consideration, we witness an unparalleled growth in the industrial life of our state, largely concentrated in and radiating from Jefferson County. The population of this area increased at a prodigious rate; which circumstance likewise attracted members of the medical profession, seemingly beyond the saturation point; so that today twenty-four per cent—almost one-fourth—of the medical population resides in the county of Jefferson. Synchronously with these rapid industrial and social changes, we also see the introduction and expansion of distasteful and flagrant abuses of the basic and ethical principles of medical practice; especially in the guise of hospital and medical services for particular groups, such as societies, clubs, lodges and the like, most of which, because of their cheapness, proved impossible of fulfillment. Such abuses, while likely more acute and numerous within the industrial areas, were not so delimited, but became manifest in other sections of the state.

In 1925, the President of the Association, taking cognisance of the existing situation, recommended the appointment of a special committee to study the problem and report to the Association in 1926. This was done; and out of the deliberations of this committee and of the State Board of Censors, as well as the lengthy and, at times, heated debates on the floor of the Association, there emerged the 1926 ordinance. In

the action taken, at this time, effort was made to supplement the present ordinance by defining what constitutes *unethical practice*, which ordinance, prior to this time, had sought merely to deal with what constitutes *ethical practice*. Such action was deemed necessary because of the growing abuses referred to above. It is important to observe that these regulations, as now constructed, carry both *permissive* and *prohibitive* features; and, further, that they reinstated the important disciplinary provisions vested in county medical societies formerly existing, but which had been removed by the Association's action taken in 1908. Henceforth, all contracts made by any member of the Association would be open to inspection by the county medical society having legal jurisdiction.

In 1928—two years later—the following resolution was introduced and, apparently without debate, was favourably acted upon by the Association:

"Whereas, Contract practice is neither necessary nor desirable in the rural sections of our state, and

"Whereas, In the present ordinance regulating contract practice it is permitted on plantations having twenty or more tenants or on farms occupied by twenty or more families, therefore be it

"Resolved, That Section 1 of the ordinance regulating contract practice be amended as follows:

"By striking therefrom Article 5."

The implications of the deletion of this section of the ordinance, which through its many amendments, had always been preserved previously, do not appear to have been fully appreciated by the Association, or, if so, its deletion can likely be explained on the ground that, coming so speedily on the heels of a difficult struggle for improvement in the field of industry, harmony prompted its acceptance. However, by such action, it is seen that a real hardship, possibly quite unwittingly, has been dealt the rural physician, in his efforts to obtain a like degree of economic security as that vouchsafed the city physician under the ordinance as it exists. In truth, the changes now taking place in our social structure, and with a rapid shift of a large segment of the population, many of whom constitute a desirable citizenship, from the rural areas to urban centres, have created conditions so portentous to the rural physician as not to be ignored by this body. The excellent study of the present medical population of the state and its distribution, presented by the Association's Secretary and previously commented upon in this report, clearly indicates this fact. If contractual agreements are to be condoned by this Association, every effort should be made to see that no discrimination, either against any physician or any groups of our population, is permitted to creep into regulations seeking to govern contracts. As brought out above, one of the important provisions of the present regulations is that which gives to county medical societies disciplinary control over contracts. In fact, the framework of the entire ordinance is built around the *individual physician* and his professional con-

duct; a physician is *permitted* to do certain things, pronounced to be ethical; or *prohibited* to do certain other things pronounced to be unethical; and these principles should apply to every member of the Association, regardless of geographical location.

In the last amendment to this ordinance, made in 1935, when this Association gave consideration to the perplexing problem of a state-wide hospital plan on a voluntary prepayment membership basis, we witness a statesman-like approach in the drafting of an ordinance to meet this demand and in which were incorporated certain basic and ethical principles considered to be necessary in any such plan. These were: (a) any plan to provide solely for hospitalisation, and not to include medical and surgical fees; (b) uniformity of such plan, in every phase, throughout the state; (c) preservation of physician-patient relationship; and (d) recognition of, and delegation to, the organised medical profession of the medical aspects of operation, by making use of county boards of censors and of the State Board of Censors. These principles, enunciated by this Association in 1935, were incorporated into the law, subsequently enacted by the legislature, seeking to provide voluntary hospital protection in this state.

With the above analysis of, and comments on, the ordinance in its present form before it, the Board feels that the Association may now pass to a more intelligent consideration of these resolutions; and furthermore, because of the exceptional harmony now prevailing in our ranks, we may approach a solution in a dispassionate and judicial manner. So similar in content are both resolutions, it is felt that time can be conserved by dealing with them jointly. In substance, appeal is made to this Association to take such action as may be indicated, in order that members of county medical societies may enter into certain contractual relations to provide medical care for substandard groups of the rural population, selected, sponsored, and, in part at least, financed by the Farm Security Administration of the Federal Government. The present effort on the Federal Government's part to extend a helping and educative hand, looking to the uplifting of a large and by no means negligible segment of our low-income rural population, should be viewed in a sympathetic and co-operative manner by every thinking citizen and by all business and professional groups. It would appear to be a hopeful omen for the future of this Association to have presented to it such a co-operative attitude by the complete membership of county medical societies, working in unison and harmony and struggling to find an ethical solution for a new sociologic problem now confronting the rural physicians throughout this state. Heretofore, questions brought before this Board and this Association pertaining to ethics have dealt largely with restrictive measures to be placed upon the individual member; in these resolutions we witness an appeal being made in the name of county medical societies, whereby all members, collectively, are to unite in working out a plan designed to meet their own local needs and which they feel should make for a

better medical service, as well as improving the economic security of their members. To attain such an end and to obviate the pit falls of unethical practices, an appeal is now being made to this Association for guidance and direction. There are now more than 10,000 such families, widely scattered throughout the state, and, with each family averaging a fraction over six members.

In January of this year, this Board, at a called meeting, after receiving a report from the Public Relations Committee, gave expression to certain broad principles which were furnished county medical societies and published in the Journal of the Association. In these, purposely, no effort was made to deal explicitly or in minute detail with the various phases of a problem, which, because of local conditions, might better be left to the local profession. The Board here reiterates not only this view but its former expression of confidence in the membership of county medical societies and in their ability and integrity to deal fairly and ethically with their own particular problems. Inasmuch, however, as the problem now presenting is state-wide in scope, and therefore calls for the setting up of certain ethical criteria and standards for the guidance of the local profession of the several counties, the Board submits the following for your consideration and action:

1. Amend Subsection 6 of Section 1 of the present ordinance governing contract practice as follows:

To practice in a hospital with which contracts are made by a railway, mining, manufacturing, commercial, or public service company, corporation or establishment, or by a governmental agency, approved by the county medical society and by the State Board of Censors of this Association, for the care of their own sick and wounded, but not for the salaried officials of such companies or agencies and their families, provided such hospital maintains in such contracts a minimum rate charge commensurate with the acceptable standards of cost for hospital service.

2. Add to Section 1, Subsection 10:

To perform medical and surgical service for certain groups of Alabama citizens and their families who, because of their low economic and financial status, are receiving government aid for purposes of rehabilitation.

All contracts permitted under this subsection and made with a governmental agency shall, over and above the provisions set forth in other sections of this ordinance, include the following:

- (a) Approval of any plan to first be given by the medical society of the county in which it is to operate and also by the State Board of Censors of the Medical Association of the State of Alabama;

- (b) Participation in such plan by all members of the county medical society desiring to do so;

- (c) Regulation and censorship by the board of censors of the county medical society of all medical phases of the program, including

charges, fee schedules and the adjudication of differences arising between patient and physician;

(d) Preservation of the principles of free choice of physician and of the physician-patient relationship.

3. Amend Section 2 to read as follows:

Except as set forth in Subsections 6 and 10 of Section 1, a physician shall not without violating the ethics of the profession, contract to render the following service:

Subsection 1. To perform medical or surgical service for private individuals, groups of individuals, lists of individuals, or for any society, lodge, club, or in what is commonly denominated a list hospital, or a hospital which secures its patients by unfair competition or unfair methods.

Subsection 2. To perform medical or surgical service in a hospital or clinic with hospital service which does not conform to the ordinance of this Association now regulating group hospital insurance or which may hereafter be adopted by this Association.

4. Amend Subsection 3 of Section 2 to read as follows:

To perform medical and surgical service in a hospital or clinic that for a weekly, monthly, quarterly or annual stipend or stipend collected at other intervals, agrees to provide hospital service for individuals or groups of individuals, except in a hospital with which contracts are made by railway, mining, manufacturing, or public service companies, or by a governmental agency, approved by the county medical society and by the State Board of Censors of this Association, for the care of their own sick and wounded.

5. Amend Section 4 as it now stands by substituting therefor the following:

Section 4. That all contracts allowed under this ordinance shall be made with the proper officials of the company, corporation or agency entering into such contract and compensation for professional or hospital services shall be paid direct from the treasury of the company, corporation, or agency concerned.

The amendments were adopted in their entirety.

MESSAGE OF THE PRESIDENT

In his opening remarks the President commends the Association for the increased interest and activities displayed by its officers and members in their efforts to expand in the scientific field of medicine. He also points with pride to the strengthening of the health department in certain fields of endeavour in order to better protect the public health, made possible through the enlightened leadership of this Association, and the stabilisation, by the legislature, of appropriations made for the conduct of health work. Particular reference is made to the great need and value of the maternal and infant programs which seek to give better health protection to the many underprivileged women of our state; and also to the increasing importance of providing a continuous flow through refresher courses to rural

practitioners of the newer knowledge necessary in the application of modern medical practice. In these views the Board heartily concurs and will continue in the future, as it has in the past, to stimulate increased activities in these fields.

The President discusses, also, the activities which, for some years, have been developing throughout the country, bearing on the problem of voluntary hospital insurance; and directs attention to the action taken by this Association, three years ago, in an effort to bring about state-wide uniformity of plan and to preserve certain ethical and professional principles deemed necessary for incorporation into proposed legislation looking to this end. Based upon this action and written into the ordinances of this Association regulating contract practice, a bill was introduced into the legislature and became law in 1935. This Act—known as the Hospital Service Corporation of Alabama—provides for the establishment and regulation of non-profit corporations and places upon the State Board of Censors of this Association very definite duties and responsibilities in the matter of determining the professional and ethical rating of any hospital participating under the Act. In discussing the present type of contract entered into by the Hospital Service Corporation of Alabama, the President says:

"In the opinion of your President the present type of contract is open to one very serious criticism. Provision is made for laboratory work and under certain conditions for x-ray work. Most hospitals have the laboratory and x-ray work done or interpreted by physicians. A priori the physicians who do such work must be and are business partners of the hospital. Their work is of a professional nature and their partners should not be permitted to contract on an insurance basis for such service as they give the patients through the hospital. All professional services by licensed practitioners of medicine should be eliminated from these contracts."

Section IV, which deals with the type of service of the hospital service contract, entered into between the individual and the corporation, reads, in part, as follows: "Established routine laboratory service, urinalysis, complete blood count." "Furthermore, should the certificate holder desire extra hospital service or tests not included hereunder, a discount of 25% from its standard charges will be allowed by the hospital to such certificate holder provided such service or tests are available and furnished by such hospital and are paid for in advance by the certificate holder."

Section V of the contract deals with "services not included" and the pertinent part of this section reads as follows: "There will not be furnished hereunder the services of attending physicians, surgeons or special nurses, nor any specially ordered laboratory work, x-ray work, electrocardiograph examinations, or other service not hereinbefore specified as being included in this contract."

Furthermore, Section 5 of the Association's ordinance dealing with hospital insurance reads, in part, as follows: "That any plan for providing hospital services on the insurance basis which

deals exclusively and only with the hospitalisation of the sick will be considered ethical."

It would seem, therefore, that if encroachments are being made on the part of hospital authorities upon professionally trained experts in the laboratory and x-ray fields, such abuses could hardly be charged against the provisions of this Act. On the contrary, it is felt that the disciplinary measures vested in the State Board of Censors both by the Act itself and by the Association's ordinance, should act as a deterrent force in encroachments of this nature.

The President next discusses the many dangers to the public resulting from an ever-increasing use and abuse of the manifold advertising channels now utilised by all conceivable types of commercial enterprises having a food, a medicine, or a cosmetic to be foisted upon a consuming and credulous public. He makes a particular appeal for better co-operation to the pharmacists and drugstore proprietors in an effort to curb counter prescribing and the reckless use of patent and proprietary remedies, many of which—such as the barbituric acid compounds—may prove a distinct menace to individual and public health. The struggles in the Federal Congress, during the past several years, which organized medicine and others interested in improving the present status of the Federal Pure Food and Drug Act have had with the combined and strongly entrenched forces of commercialism, show how difficult it is to procure satisfactory legislation in this field. The Board, therefore, joins in an appeal to the pharmaceutical profession to lend its aid in purifying and improving existing conditions.

The latter portion of the President's Message is devoted to an interesting discussion of what he chooses to denominate "State Medicine." He cautions against the dangers to our profession from over-commercialism and superlative competition and counsels that our strongest bulwark will be found in a united profession, adequately trained to deliver scientific medicine care and in an unswerving adherence to high ethical principles.

The Board commends this Message to the careful reading of the membership of this Association.

The Association gave approval to the Board's comments on the President's Message.

REPORTS OF THE VICE-PRESIDENTS

The Board is happy to record that the reports submitted by these officers reveal a commendable activity and interest in each of the four districts. These reports show that the vice-president in each district held at least one meeting of the medical societies over which he presides, that the attendance upon and interest displayed in these meetings on the part of the members were most encouraging. The scientific papers contributed on these occasions show a marked improvement and have been of such high order as to merit subsequent publication in our Journal.

The Board desires to direct particular attention to the increased interest and activities displayed

by the county societies constituting the two northern divisions and to point out to the membership of all the divisions the many advantages which can be made to flow from well and carefully planned divisional meetings. The Vice-President of the Northwestern Division makes two recommendations:

(a) That the Committee on Public Relations study the feasibility of a state-wide plan of malpractice insurance for physicians, and;

(b) That the Committee on Postgraduate Study be broadened to include the fostering of scientific exhibits at the annual meetings of this Association.

In the matter of the first recommendation made by Vice-President Smith, it is not entirely clear whether reference is made to blanket insurance or to a defense plan financed by the Association. If the former is in mind, the situation is satisfactorily covered through the Casualty Division of the Aetna Insurance Company and the Lumbermens Mutual, details of which may be had through the Secretary of the Association. The coverage of these contracts is \$5,000 for a single case and \$15,000 for a year's experience at the cost of \$22.50 to the individual physician, a reduction of approximately 25 per cent in current rates for the same coverage.

On the other hand, if medical defense by the Association is the thought, then the Board recommends that the Committee on Public Relations, in conjunction with the Secretary of the Association, give consideration to such a plan, and report its recommendation to the next meeting of the Association. The Board, however, would direct attention to the fact that the inauguration of such a scheme would call for an appreciable increase in annual dues, and this likely would not offer a great appeal to the rural physician where malpractice suits are a comparative rarity.

To the second recommendation, that the Committee on Postgraduate Study be broadened to foster scientific exhibits at the annual meetings of this Association, the Board gives approval, and recommends its adoption.

The Board, therefore, feels that these reports are entitled to the full endorsement of this Association and expresses the hope that these important officers will continue to receive the co-operation and support of the Association's entire membership.

Discussion of the first recommendation of the Vice-President of the Northwestern Division revealed that difficulty is being experienced by some members in procuring insurance against malpractice suits; whereupon the Association directed its Secretary to co-operate with the Committee on Public Relations in investigating the matter.

The second recommendation was adopted.

REPORT OF THE SECRETARY

The Board feels that commendation from this Association is due its Secretary for the exceptionally illuminating and interesting report submitted by him at this meeting. Comments upon cer-

tain sections of this report have already been made by the Board.

The full report is entitled to your approval and it is so recommended.

The Association concurred.

REPORT OF THE TREASURER

The Auditing Committee from the Board, after careful examination and review of the books of the Treasurer, finds them in proper order and entitled to your approval.

The Board so recommends.

The recommendation was approved.

COMMITTEE OF PUBLICATION

The report of the Committee of Publication reveals a most encouraging growth and expansion in the range of activities which the Journal—the official organ of the Association—seeks to embrace. It is particularly gratifying to learn from this report of the marked improvement which has taken place both in the quality and number of scientific papers offered for publication by members of this Association.

The Board recommends the approval of this report.

Approval was given.

REPORTS OF STANDING COMMITTEES

1. PUBLIC RELATIONS

This report reveals that this committee has given serious and earnest consideration to the many economic problems confronting organised medicine and the profession of this state. A special plea is made in this report for the putting forth of increased effort on the part of all officers, of all committees and of the entire membership of the Association to study and learn more about the economic aspects as these relate to our modern social structure. Particular emphasis is placed upon the need and importance of educational programs sponsored and promoted through the ethical channels of the medical profession.

This committee directs particular attention to the survey of medical needs to be made by state and county medical societies now being sponsored by the American Medical Association, and makes an earnest plea for the fullest co-operation of the entire profession in order that the results of such survey may be not only helpful to the people of our state but also a real credit to our profession and to our organisation.

This committee, during the past year, has given much time and study to the problem presented by the Federal Government in its efforts to work out with the medical profession of this state some suitable plan for rendering medical care to the underprivileged rural group which it is sponsoring.

The Board desires to take this occasion to thank this committee for the valuable assistance given it in shaping the recommendations which have previously been made to this Association bearing on this problem.

The Board recommends the endorsement of this report.

The Association endorsed the report.

2. PREVENTION OF CANCER

This report reveals gratifying activities in the field of education, both for lay groups and within the medical profession. During the present year this committee has pushed steadily forward with its plans for the organisation of the Women's Field Army in Alabama. In the furtherance of the work of this committee, both with the medical profession and with lay groups, full utilisation has been made of the obstetrician attached to the staff of the health department, who serves as the secretary of this committee and who aids in organisational work in the field. The educational phases of this committee's program are of such outstanding importance that effort is being made to utilise all ethical channels through which sound information and instruction bearing on this subject may be presented.

The recommendation made by this committee to county medical societies that at least one scientific meeting each year be devoted to a discussion of cancer has the hearty endorsement of this Board.

The report of this committee is entitled to the approval of the Association and the Board so recommends.

The Association approved the Board's recommendation.

3. MATERNAL AND INFANT WELFARE

This report expresses the appreciation of this committee for the helpful services which are now being rendered the practising physicians through the obstetrician attached to the health department staff and points out the great need for such services. This committee views with favour the efforts put forth by the health department in stimulating the establishment of prenatal clinics for necessitous mothers; it also feels that the experiment now going on in one county of a nurse delivery service to aid the practising physician at the bedside has many useful possibilities which might well be expanded as finances will permit.

This report also carries useful and constructive suggestions bearing on those factors involved in maternal mortality; viz., sepsis, the toxemias of pregnancy, abortion and stillbirths. The Board feels that not only is this report entitled to the approval of the Association, but that this Committee is entitled to its thanks for sponsoring and making possible the showing of the film, "The Birth of a Baby."

The Association concurred.

4. POSTGRADUATE STUDY

The activity and interest displayed by the members of this newly created committee are deserving of special commendation. Three important fields of endeavour have claimed its attention; viz., syphilis control, pneumonia and the vigorous sponsoring of medical postgraduate work. In this last field, and in the light of the further consideration by this Board of the financial aspects involved in the working out of plans for postgraduate study in this state, it appears that a program for conducting such courses may be worked out in the near future and that

members of this committee will be given the opportunity of rendering an outstanding service to the profession of this state, working in close co-operation with this Board.

The Board bespeaks the active and continuing support of the membership of this Association in the work being promoted by this committee.

The Board's expression was approved.

5. MENTAL HYGIENE

This report reiterates this committee's interest in, and the urgent need for, a beginning to be made in a state-wide mental hygiene program. Mention is made of the impetus given such a plan through the visit to Alabama to attend the annual meeting of the State Society of Mental Hygiene of Mr. Clifford Beers and Dr. Clarence Hincks from the National Society. Record is also made of the efforts put forth by this committee, working in conjunction with other interested agencies, to establish a mental hygiene clinic in the City of Birmingham; which efforts, up to now, have not been crowned with success. The Board is gratified to note, from this report, the increased interest being manifested in this important phase of public health activities and expresses the hope that under the leadership of this committee, a beginning may soon be made in this state.

Approval of this report is recommended.

Approval was given.

6. FRACTURES AND FIRST AID

The report of this committee covering its activities during the current year reveals that steady progress has been made along the lines set for itself in the report of last year. This program has been largely educational, when dealing with county medical societies, and both educational and promotional with lay groups, and by encouraging the formation of first aid stations throughout the state at strategic points.

Approval of this report is recommended.

The Association approved.

7. THE JAMES MARION SIMS MEMORIAL COMMITTEE

It will be recalled that at the last meeting of the Association a resolution was introduced by Dr. Seale Harris, Sr., of Birmingham, to create a temporary James Marion Sims Memorial Committee within the organization for the purpose of raising funds for the erection of a suitable monument to this surgeon to be placed at the Capitol in Montgomery. This resolution was approved and empowered the incoming president to appoint such a committee.

This committee, of which Dr. James R. Garber, of Birmingham, is Chairman, while not yet having completed its plan of operation, has submitted at this meeting a preliminary report in which request is made that an amount of Association funds not to exceed \$25.00 be appropriated for this committee's use during the ensuing year for the purpose of taking care of stationery, postage and incidentals of this nature.

The Board recommends approval of this preliminary report, and also that the amount of \$25.00 asked for be allocated to this committee.

In a further consideration of this memorial to so distinguished an Alabama surgeon and to adorn the grounds of our State Capitol it was felt that it might be possible to procure federal aid through some source for such a purpose. In order to procure such a memorial it would likely require more funds than the Association would be able to raise through subscriptions. The Board, therefore, recommends to the Association that approval be given to the expenditure of \$1000.00 of Association funds for this purpose, conditional upon the committee's raising through subscriptions at least \$1500.00.

The recommendations of the Board were adopted.

THE ORGANISATION OF STANDING COMMITTEES

The Board recommends that Section 6 of the ordinance regulating the organization and work of the standing committees of this Association, now reading: "That the chairman of each committee, or council, shall, if necessary, be supplied with the necessary stationery and postage for the proper conduct of his office; said expenses not to exceed \$5.00," be changed to read as follows:

"That the chairman of each committee shall, if necessary, be supplied with the necessary stationery and postage for the proper conduct of his office; the amount of such expense to be determined by the Secretary of the Association and the Secretary of the State Board of Censors after due and proper consideration has been given to the volume of work done by each committee."

The amendment was adopted.

DUES PAID TO THE ASSOCIATION BY COUNTY MEDICAL SOCIETIES

The attention of the Board has been directed to the apparent hardship done to the finances of county medical societies because of the provision of Article 12 of the model constitution under which most of the county medical societies now are operating. Section 1 of this article reads as follows:

"The annual dues of members shall be dollars, provided that any member who has held continuous membership in the society for thirty years shall be exempt from the further payment of annual dues should he claim exemption."

The Board feels that the Association should not exact of a county medical society a remittance to the Treasurer of this Association for any member who has been identified continuously with organized medicine in this state for thirty years. It further feels that any exemptions extended to a member for the reason stated above should be borne by the treasury of the association rather than the treasury of the county medical society. The Board, therefore, recommends the adoption of the following ordinance for the guidance of the secretaries of county medical societies when making their annual reports to the Secretary and Treasurer of this Association:

"That on and after the close of the 1938 annual meeting of this Association any member who has

been continuously identified with the organized medical profession of this State for thirty consecutive years, the said county shall not be required to remit payment for such member to the Treasurer of the Association, provided the county medical society of which he is a member has exempted him from the payment of local dues."

The ordinance was adopted.

RESOLUTIONS

RESOLUTION OF DR. A. C. JACKSON

"Whereas, There has never been any provision by the State Government for indigent hospital cases in this state, and the private hospitals of the state have had to care for these indigent patients and charge it off at the end of each year; and since this charity load is growing larger and the hospitals are very much in need of relief from this load; and

"Whereas, Our sister state of Mississippi in the year 1936, in spite of the fact that it is already supporting five charity hospitals, appropriated \$500,000 for the care of the indigent sick and injured in the private hospitals of the state; and this plan has proven very satisfactory in that state, as well as in the state of Pennsylvania, and a similar plan should do much good for the indigent sick and injured in this state; and

"Whereas, This seems to be the most economical way of handling the indigent sick requiring hospital attention since the state would not have to go to the expense of building and maintaining large and expensive hospital plants; therefore be it

"Resolved, That the Medical Association of the State of Alabama endorse and request the passage of similar legislation in the State of Alabama.

Shortly after the opening of the last extra session of the legislature, one of its representatives discussed with our State Health Officer the Mississippi Bill providing state aid for the hospitalization of indigent cases which had been passed by that state in 1936.

It will be recalled that, at this time, the legislature had been called into extraordinary session by the Governor for the specific purpose of providing additional revenues to care for existing appropriations which were not then being met. The appropriations for health and for education were still being drastically curtailed and the special appropriation made to county tuberculosis sanatoria in 1931 had never become operative. At this time and until the legislature had provided additional funds, it did not seem wise to the State Health Officer to actively sponsor this legislation; although he did prepare a modified bill which sought to provide state aid to counties in caring for their indigent cases. This bill was introduced in the legislature but was never reported out of committee. Now that the state's finances have been stabilized through the luxury and liquor taxes, both the Board and the State Health Officer are of the opinion that serious consideration should be given by the state to extending, at least partial aid, to counties in this regard. While the problem of the necessitous is primarily the responsibility of the local commu-

nity, yet, in most instances, extraneous aid becomes necessary, if suitable provision is to be made. This is the principle now applied in this state to the tuberculosis problem; with the state giving financial aid to counties for maintenance. This same principle, if the state's finances permit, might well be extended into the realm of indigence.

The Board feels that this problem is so far-reaching and of such tremendous importance that it merits serious and careful study. It is, therefore, recommended that this Association instruct this Board and the State Health Officer to explore this question further and, if they deem expedient, to prepare a suitable bill to be introduced into the next legislature to be sponsored by this Association.

RESOLUTION OF DR. C. B. JACKSON

"Whereas, The State of Alabama has on its statute books a law requiring men to have a physical examination and a certificate from a physician that they are free from venereal disease in order to obtain a marriage license; and

"Whereas, This law is inadequate to meet the demands of the present day, therefore be it

"Resolved, That the Medical Association of the State of Alabama go on record as favoring a law requiring both parties to the marriage contract to have an examination, including a laboratory examination by a competent technician, under the direction of the County Health Officer, or other legally licensed physician; and be it further

"Resolved, That they must have a certificate from said County Health Officer or physician that they are free from all venereal diseases, before obtaining a license, and be it further

"Resolved, That this resolution be referred to the proper authorities with instructions to have a bill prepared and presented to the legislature at its next session; and be it further

"Resolved, That the Bill shall contain provision for the state, in co-operation with the counties, to maintain laboratories to carry out the provisions of the bill—counties of fifty thousand inhabitants or more to have a laboratory; smaller counties to be grouped so as to provide a laboratory for each group of sixty to seventy-five thousand population; and be it further

"Resolved, That the fee for such examination shall be \$5.00. Provided that persons who are supported by direct relief from the Welfare Department of the state, county or municipality and produce a certificate to that effect from the Welfare Department shall be examined free of charge; and be it further

"Resolved, That our State Health Department be instructed to confer with the health departments of states bordering on Alabama with a view of getting them to sponsor similar legislation in order to make such laws more effective."

The Board is in accord with the importance and timeliness of the subject matter dealt with in this resolution and in its recommendations, already made and approved by the Association bearing on legislative matters, and has touched specifically on this question. The Board assures the Association that it will co-operate with the

State Health Officer in attempting to have suitable legislation bearing on this subject enacted at the next meeting of the legislature.

RESOLUTION OF DR. LEE F. TURLINGTON

"Whereas, The American Medical Association at its last annual meeting in Atlantic City, in addition to other recommendations, endorsed the rendering of information and advice concerning the prevention of conception in clinics, dispensaries and similar establishments legally licensed to treat the sick and under medical control; therefore be it

"Resolved, That the Alabama State Medical Association express its concurrence in this action."

The Board recommends that the Association give approval to this resolution.

The resolution was approved.

On motion, duly seconded, Part I of the Board's report was adopted as a whole.

PART II

REPORT OF THE BOARD OF CENSORS AS A BOARD OF MEDICAL EXAMINERS

Section 28 of the Constitution of this Association reads as follows:

"When acting as a State Board of Medical Examiners the Board shall, in accordance with the law of the state regulating the qualifications of practitioners of medicine, and also in accordance with rules and regulations prescribed by the Association, examine all persons who may be eligible for examination and who may apply therefor, and shall issue to such as are found qualified certificates to that effect."

In this field of its activities the Board submits the following report:

Total number examined June 22-24, 1937	28
Total number of certificates of qualification granted	27
Total number of pro forma certificates granted	50
(a) By reciprocity with other states	47
(b) From the National Board of Medical Examiners	3

From this report it will be seen that more certificates of qualification are now issued through the channel of reciprocity with other states than through examination. All such applications receive careful scrutiny at the hands of the Board, not only as regards medical qualifications, but also as to the moral character and ethical standing of each applicant. For more than twelve years this Board has required at least one year of internship in an approved hospital before granting reciprocity to those seeking licensure through this route. The Board now feels that medical science and medical education have advanced to such a degree that at least one year of internship in a reputable and approved hospital should be viewed as a *sine qua non* before granting a certificate of qualification to any applicant, who is a graduate of a grade "A" medical school. Con-

sequently, at the last meeting of the Board, the following regulation was added to those already governing examinations:

"Any applicant for a certificate to practice medicine in this state, after the collegiate year 1938, will be required to serve at least one year of internship in a hospital approved by this Board before such certificate will be issued. Applicant will be permitted to take the examinations, but certificate will not be issued until compliance with this requirement has been had."

GRADUATES OF EUROPEAN MEDICAL SCHOOLS

For the past several years there has been an increase in the number of graduates of European medical schools seeking to take our examinations for medical licensure. The great difficulty has been to properly verify and evaluate their credentials, since there is, as yet, no dependable agency in this country through which this information can be had. The seriousness of the problem is appreciated, when one learns that during the collegiate year 1936-1937, American students numbering 1,648 were matriculated in European medical schools.

Since this problem of accurate evaluation of credentials is fraught with so many difficulties, the Board felt that, of the existing agencies, the National Board of Medical Examiners was in best position to pass upon the credentials, qualifications and fitness of all European graduates, whether native born or foreign born. Consequently, the Board, one year ago, passed the following regulation to be applied to this group of applicants:

"In the case of an applicant, whether native born or foreign born, who has graduated from an European school, the following rules shall obtain:

"(1) Present a certified statement from the National Board of Medical Examiners of the United States setting forth that he has successfully passed all examinations, written and oral, required by this Board; and

"(2) Either (a) present a certificate of qualification to practice medicine (a license) issued in the country of his nativity or in the country in which the medical school, from which he graduated, is located; or (b) present a certificate setting forth that he has satisfactorily passed the federal examinations necessary to obtain licensure to practice medicine in the country in which the medical school, from which he graduated, is located.

"In addition, a foreign born applicant will be required to present at least first citizenship papers."

ILLEGAL PRACTITIONERS

Through legislative enactment, the people of this state have vested in this Association and in this Board the responsibility of administering and of enforcing, with the aid of the courts, the medical practice act governing all practitioners of the healing art. This means not only the passing upon the fitness and qualification of those seeking to render this important service, but also—and quite as important—the disciplining

of licentiate, even to the point of revocation of an issued license. It is a further function of this Association and of this Board, in the discharge of the legal duties imposed, to protect the public health from the impositions and dangers of those who have not been duly and legally qualified.

The files of the State Board of Medical Examiners during this past year reveal that many county medical societies are manifesting a growing interest in making effort toward the elimination of illegal practitioners in their respective counties. Many illegals, apparently, who do not hold a certificate of qualification from the State Board of Medical Examiners, have sought to justify their unlawful actions by the payment of the occupational fee or tax required of any one practising the healing art. However, the Attorney General has ruled that the issuance of such occupational license in no way invalidates the present law requiring from this Board a certificate of qualification, upon which such occupational tax must be predicated. In an effort to determine the approximate number and location of illegals within the state, the Secretary of the Association has circularised the various county medical societies asking for this information. Based upon the returns thus far received from 52 counties, 119 illegals have been reported—35 of these being located in Jefferson County and 10 in Mobile County.

While the difficulties are manifold in bringing about convictions in many of these cases, the Board desires to commend the efforts being made by county medical societies to thus safeguard the public health from the impositions and oft-times extravagant claims of this unlawful group and extends its support, whenever possible, in aiding county medical societies in the discharge of this important phase of their legal responsibilities.

EXAMINATION APPLICANTS GRANTED CERTIFICATES OF QUALIFICATION

Barnes, Wyatt	Hammond, James Paul
Boozer, Thomas	Harris, Edward Alun
Stewart	Hightower, David
Buresch-Henke,	Peterson
Hildegard	Hubbard, Leslie Howell
Chenoweth, Arthur	Jones, Lewis McCurdy
Illges	Kent, James Marvin
Day, Samuel Mason, Jr.	Marshall, James Moore
Dix, Albert Sidney	Price, Lance Charles
DuBois, James Slaton	Roscoe, Geoffrey Jocelyn
Eddins, Woodrow	Taubert, Russell
Wilson	Kenneth
Edwards, Winston	Turnipseed, Derrick
Aerson	Chadwick
Elliott, Thomas	Weems, William Hawley
Cheseborough	Welch, Oliver William
Glass, John Vincent	Wiesel, Bertram
(Osteopath)	Woodley, Laurence
Goldner, Harry	Stephenson

RECIPROCITY APPLICANTS RECEIVED APRIL 1937-APRIL 1938

Askin, Henry Ernest—La.	June 26, '37
Barclift, William Clarence, Jr.—Tenn.	Sept. 17, '37
Bibb, Clyde James—Pa.	Sept. 6, '37
Black, Benjamin Stephen—Ill.	Dec. 28, '37

Block, William Henry—Tenn.	Oct. 2, '37
Box, Thomas Toxey—Miss.	June 18, '37
Browder, Ernest Arthur—Tenn.	June 7, '37
Clack, John Morgan—Tenn.	June 18, '37
Clark, Hugh Gambel—Texas	July 20, '37
Cole, Charles Mason—Ky.	Nov. 9, '37
Coleman, Stanley Irvin—S. C.	Sept. 16, '37
Davis, John Walter, Jr.—Va.	Sept. 21, '37
Davis, John Woodfin—Tenn.	Oct. 7, '37
Dodge, Eva Francette—N. B. M. E.	Apr. 1, '38
Ellis, Frank Fearn, Jr.—Tenn.	Nov. 13, '37
Ford, Joseph Wesley—Okla.	Aug. 17, '37
Gary, Robert Eugene—Ga.	Sept. 21, '37
Gaston, Cecil Lorrain, Jr.—La.	June 11, '37
Gay, Otis Franklin—La.	Jan. 12, '38
Golden, William Colyn—Miss.	Sept. 2, '37
Guthrie, Robert Fulmer—La.	Aug. 26, '37
Holler, Carl August Fritz—Iowa	Feb. 7, '38
Hunt, Horace Chapman—Tenn.	June 18, '37
Hutchinson, John Edward—Ga.	Oct. 13, '37
Ingham, Rutherford Orvis—N. B. M. E.	Mar. 7, '38
Ivey, William Henry—Ga.	Jan. 15, '38
Jordan, Henry Claudius—La.	July 5, '37
Kelly, Joseph Paul—N. C.	Oct. 5, '37
Kite, John Edgar, Jr.—Tenn.	Aug. 26, '37
Lewis, Arthur Noble, Jr.—La.	Mar. 24, '38
Matthews, Herbert Owens—Ind.	Oct. 1, '37
Miles, Nathan Edgar—S. C.	Nov. 4, '37
Ramey, Daniel Randolph, Jr.—Tenn.	July 8, '37
Rayfield, John Dexter—Tenn.	June 24, '37
Sacks, Herman Marx—Ky.	July 15, '37
Seal, Alfred Linwood—La.	Sept. 11, '37
Simmons, Eldridge Cook—Va.	June 18, '37
Stephenson, Samuel Logan, Jr.—Tenn.	Nov. 1, '37
Timberlake, Landon—Md.	May 21, '37
Townsend, John MacMillan—Mich.	Oct. 13, '37
Ursin, O. Elliott—Mo.	Aug. 17, '37
Vandergrind, Arthur Joseph—Wis.	Jan. 12, '38
Walwyn, Cyril Anderson—D. C.	Aug. 12, '37
Whitlock, Hilard Elbert—Tenn.	Oct. 15, '37
Whitworth, Clyde Walton—Ga.	Nov. 26, '37
Wilson, Robert Kemp—N. B. M. E.	May 4, '37
Windham, John Evans—Pa.	Oct. 21, '37
Woodall, Paul Silas—Ill.	July 16, '37
Woods, William Perry—Ind.	June 18, '37
Word, Samuel Buford—Miss.	June 15, '37

Part II of the Board's report was adopted.

PART III

REPORT OF THE BOARD OF CENSORS AS A STATE COMMITTEE OF PUBLIC HEALTH

J. N. Baker, M. D.
State Health Officer

To the Members of the Medical Association of the State of Alabama, Sitting as a State Board of Health:

I have the honour, as your health executive, to submit herewith my annual report covering the various activities of the health department during the past year, which, when approved by you, will constitute the department's official report to be transmitted to the Governor of this state.

In the report now being submitted to you, effort has been made to briefly epitomise the principal activities and expansions of the department, thereby giving the interested reader the bare skeleton of the major and sundry activities engaged in by this department. A more detailed account, presented by the several administrative divisions, will later be incorporated and published in the annual report of the department.

TRENDS IN MORTALITY STATISTICS FOR 1937

It is a pleasure to be able to record that, during the year just past, this state has been visited by no epidemic disease of a nature to call forth special and concentrated effort for its control. With the exception of the sporadic appearance within limited areas and affecting but small clusters of the population, such as "familial typhoid" in certain rural areas, and the stubborn persistence of a too-high incidence of meningitis in Jefferson County, it may be said that our people have enjoyed a singular immunity from anything approaching a serious epidemic. Consequently, the year 1937 was an unusually favourable one from a public health standpoint. Mortality statistics given below are provisional and, therefore, subject to correction when the final figures are obtained.

Births: The general trend in the birth rate has been downward for about a decade. However, the rate (21.5 per 1,000 population) was slightly higher than that of last year (21.2). Compared to rates in other sections of the country our birth rate has been high. For the United States Registration Area the average birth rate in 1936, the last year of record, was 16.7.

Stillbirths: Stillbirths were slightly higher in number (2,651) than in the preceding year; however, the stillbirth rate (41.1 per 1,000 total births) indicates that the final rate will probably be equal to or less than any recorded in a decade. Subsequent to 1929, the trend in the stillbirth rate has been downward.

Deaths: There were 31,085 deaths. The death rate (10.8 per 1,000 population) was slightly less than that of the preceding year, but higher than that of any year of the quinquennium (1931-1935).

Infant Mortality: Deaths of infants under one year numbered 3,922; the infant death rate (63.4 per 1,000 live births) was somewhat less than the figure last year (66.6) and continues the general downward trend of mortality in this age group. In 1936, the last year of record for the United States Registration Area, the rate was 67.1.

Deaths From Childhood Diseases: The picture presented in 1937 from this group of diseases was, in general, a favourable one. A new low rate was recorded from diphtheria (3.4 per 100,000 population). That from scarlet fever (0.4) equaled the all-time low rate recorded in the preceding year, while the figure (15.6) from diarrhea and enteritis, under 2 years, was the second lowest of record; the measles rate (0.1) the lowest in two decades. There were 19 deaths from poliomyelitis, compared with 40 in the epidemic year of 1936. On the other side of the pic-

ture, the rate (6.5) from whooping cough was higher than that recorded in either of the preceding years.

Deaths From Other Important Causes: All-time low rates were recorded for typhoid fever (1.9), tuberculosis (60.8) and all puerperal causes (56.8). The rates for malaria (7.9) and pellagra (10.8) were the second lowest of record; that for nephritis (78.4), the lowest in 13 years. In contrast, the rate for diseases of the heart (162.9) reached its highest point; that for cerebral hemorrhage (75.9), the second highest of record. The cancer rate (57.5), although the third highest of record, was below that recorded in the two preceding years. The rate from pneumonia (90.7) was the second highest in 9 years and that from influenza (50.2), in five years. Although the rate from diabetes (10.4) was below that of the preceding year, it was the fifth highest of record.

ADMINISTRATION

The long-wished-for goal of complete county organisation for health work on a full-time basis was reached in the closing months of 1937. During the span of years—twenty-four—stretching between 1914, when the first health unit was launched in Walker County, to the close of 1937, when the last came into existence in Bibb County, both the people and the succeeding legislatures of this state have steadily grown to appreciate the importance and value of continued and sustained organised local health work for community betterment. Failure to sooner provide this protection on the part of some counties has been due to financial restrictions rather than to a lack of appreciation of its basic value. The extra-session of the 1936-1937 legislature, sensing the urgent need of any state so predominantly rural as ours for expanded services in health, welfare and agricultural improvement, wisely provided financial assistance to counties for these specific purposes. Furthermore, the increased revenues accruing to the general fund of the state because of the luxury and liquor taxes have served to stabilise state appropriations made for health, welfare and farm extension activities to an extent not heretofore assured. To this far-seeing and happy circumstance can be attributed the rapid completion of county health organisation. The chief difficulty has been in procuring suitable personnel and in providing adequate training facilities to care for this rather sudden expansion. To meet this emergency the financial aid extended by the Federal Government through the Public Health Service has been most helpful in getting inexperienced personnel rapidly trained at certain institutional centres. However, in any large health organisation changes in personnel are frequent, and there is need of developing, within the organisation itself, adequate and suitable facilities for teaching the practical application in the field of the newest facts and techniques of modern public health. It is with progressive public health as it is with the practice of scientific medicine; a never-ending effort to learn of, to test out and to apply, for society's betterment, the newest discoveries in the field of

science and in administrative policies. With the completion of county organisation, the need has been more acutely felt for intensifying efforts in both of these directions; viz., of expanded facilities for the training of personnel and of perfecting sound techniques in administrative procedure. To obtain these objectives, a plan was conceived, which called for the expenditure of more funds than were immediately available through present allotments for health work. Upon the submission of these plans, together with an appeal for financial assistance to the Rockefeller Foundation and the Commonwealth Fund, both organisations, feeling that the proposed approach was sound, generously agreed to give aid in the promotion of our efforts along these lines. There is given below a brief sketch of the plan which already is in operation, and is known as:

THE EAST ALABAMA HEALTH DISTRICT STUDY IN ADMINISTRATIVE PROCEDURES

For some years, in order to meet, at least in part, the constant needs of growing field organisation, the health department has conducted, spasmodically and not altogether satisfactorily, a field training base at Opelika, in Lee County. Five years ago, through the generosity of the Rockefeller Foundation, we were able to add to this training base sufficient personnel and equipment to carry on a clinical research study in rural tuberculosis, placing particular emphasis upon the incidence of this disease in a typical rural southern county and on practical methods of dealing with the problem, in the absence of adequate hospital facilities which do not now obtain in Alabama. On the first of this year this study, limited in scope to the county of Lee, was brought to a close. Out of it much valuable information and data have been accumulated, which, when fully tabulated and evaluated, should prove most helpful not only to Alabama, but also to other rural states similarly circumstanced. However, over and above such tangible values as may come out of these activities, another most wholesome effect has been observed upon both the medical and lay minds throughout the entire area. This effect has been to make both the physician and the public more appreciatively conscious of their health needs and of the value of organised effort directed by and through trained personnel; in short, the educative values of these studies have been considerable and lasting and have permeated for beyond the county confines in which they were conducted. And so it was that, out of these experiences and our desire to improve administrative practices, there was evolved the plan for the creation of a "health district," incorporating the twofold purpose of a practical teaching centre and a demonstration area for specialistic health service. With a nucleus of trained personnel already at Opelika, in Lee County, and with an approving sentiment on the part of the public and the medical profession this city has been chosen as headquarters for the demonstration. The area embraces seven contiguous counties: Bullock, Chambers, Lee, Macon, Randolph, Russell and Tallapoosa, typifying rural Alabama and with a population of some 212,000—100,012 white, 112,123 col-

ored. In the district has been placed a medical director, representing the State Health Officer; and, directly attached to his staff, personnel trained in the following technical services: tuberculosis, venereal diseases, pediatrics, oral hygiene, sanitation and maternal and child health. The boundaries of the area to be served have been somewhat arbitrarily fixed, after giving consideration to population, accessibility, road conditions etc., and may readily be modified as experience prompts. In the financing of this project both the Rockefeller Foundation and the Commonwealth Fund are aiding generously; the former by concentrating its interests in developing a more intensified program for the control of tuberculosis within the area; the latter Foundation—the Commonwealth—in strengthening and expanding certain other consultant and specialised services felt to be so necessary to any rural area.

The questions to which answers are sought in this demonstration are, therefore, two: "With complete county organisation, such as Alabama now has, is it a sound administrative approach (1) to set up and maintain, within the organisation itself, a teaching and demonstration centre for the practical application of modern techniques in public health, and (2) to attempt to set up the machinery whereby a state's subdivisions may receive a more intensified service through consulting specialists limiting their activities to a given area?"

The subsequent administrative policies of Alabama's health department, in so far as these questions are involved, will hinge largely upon the experiences and knowledge growing out of this study, subject, of course, to financial and budgetary limitations.

EXPANSION OF HEALTH SERVICES

Only within the past year has it been possible, because of the limited funds available to the health department, to concentrate attention on certain major problems known to be serious health menaces and which are potent factors in the retardation of the progress of our people and of our state. It was felt that the limited funds at the command of the health department could best be applied to the holding together of the county health units which, throughout the years, and after great effort, had been built up; and that the completion of this major objective of state-wide county organisation should receive first consideration. This has now been made possible because of three factors: (1) federal subsidy to states; (2) stabilisation of the state's appropriation for health work; and (3) stabilisation of county appropriations for health work through revenues accruing from the luxury and liquor taxes. Unquestionably, the completion of the task of setting up in each county—even though minimal—the functioning machinery for local health work, is in excellent beginning and one of which all may be justly proud. In a state so largely rural as Alabama, such mechanism is essential, if local communities are to derive the greatest benefits from the expenditure of the tax dollar. However, it is important that we remember the basic principle upon which all health

services in Alabama have been built and are now being rendered; viz., local financial participation and local responsibility in co-operation with, and aided by, the state. The Federal Government, while aiding in a financial and advisory way, in no sense, has assumed a dictatorial or paternalistic role. This plan, and these principles, universally conceded to be sound, are full of hopeful promise to our people, if properly appreciated and observed by each of our governmental agencies, state, county and municipal. In substance, this means that each and every community, large or small, must study and acquaint itself with its own health problems, and, in co-operation with the central health department, speaking for the state, endeavour to work out a solution. It is axiomatic that many communities and urban centres, as they grow in numbers, wisdom and affluence, will become more self-sufficient and less in need of extraneous aid. However, even here there exist many health menaces, the checking of which will require the combined efforts from all available resources. That society and government alike appreciate this fact is evidenced by legislation now pending in Congress which seeks to provide aid to states in a better control of the venereal diseases. Such a move should not be construed as meaning that state and local governments are to relax their efforts or to surrender their responsibility. Rather does it signify a recognition of the enormity of this particular problem and the need for a still greater degree of co-operation if this scourge to society is actually to be curbed. This appreciation, on the part of the general public and of government, of the value and need to society of a more generous application of scientific medical knowledge is one of the characteristic trends of the present generation. To meet this need, no unit of government, no group in society, should fail to shoulder its full responsibility. Modern health programs call for adequate financing, over and above sound medical leadership and technically trained personnel; the two must go hand in hand. While it is true that every county in this state now has its own health unit, the number of personnel attached to each is, in most instances, minimal and not yet adequate; one public health nurse cannot satisfactorily serve a rural population group of 20,000 or more. Local appropriating bodies must be shown this need and encouraged to provide local funds for further expansion of their own health services. In such expansion, the central health department will, of course, continue to aid financially within its limitations. However, it has become increasingly more important for the central health department to strengthen its staff of trained consultants in certain fields, in order to be in position to render a specialistic service which the individual health units are themselves unable to provide. Illustrative of the great value of such services both to the practising physicians and to the people is the system of diagnostic laboratories operated throughout the state by the health department. The smaller individual health units are, themselves, not in position to finance such highly technical services. As the horizon of health broadens as a consequence of the mani-

fold discoveries in the scientific field of medicine—many of which have distinct and important public health implications—the need for making this newer knowledge more generally and readily available is steadily growing. The financial and economic aspects involved in efforts at a wider distribution of these services present difficult problems alike to the medical profession, to society and to governmental agencies. The resolve to apply this newer knowledge to a better control of certain widespread diseases heretofore not specifically catalogued as falling within the domain of official health agencies—as are now the acute contagions and the problems of environmental sanitation—stresses anew the tremendous importance of the preventive aspects of the practice of medicine. Health departments, if adequately financed, can and should, through laboratory services, clinics for the indigent and semi-indigent, with the medical profession an active participant, special consultants and the furnishing of drugs and serums, make valuable contributions to the practising physician in his individual ministrations. It is through co-operative effort of this sort that Alabama's health department is seeking to expand its services and to broaden its field of usefulness both to the medical profession and to the people.

PUBLIC HEALTH EDUCATION

In the field of public health education, which activities are an integral part of the Bureau of Administration, encouraging progress has been made, through the addition of a full-time director and a secretary to carry on this important work. Prior to the establishment of a division for this purpose, the several staff members, in co-operation with the State Health Officer, had been utilising quite effectively all avenues of legitimate publicity for getting over to the general public their health messages. Much of their efforts were concentrated on groups interested in particular aspects of health, such as parent-teacher association gatherings, medical societies, organisations of high school and college students and service clubs. This important aspect of public health education is regarded as primarily the work of specialists in the particular fields studied—tuberculosis, the venereal diseases, sanitation, vital statistics, maternal care, infant hygiene, etc. The work of the division of public health education has been concentrating its efforts on trying to reach the great mass of the population as well. This distinction has been kept in mind in formulating the policies governing the activities of this new division, which, roughly, cover three fields:

(1) *The Daily Press*: Through this medium splendid co-operation has been extended. There are 22 daily newspapers in Alabama, with a large, though unascertainable, combined circulation. All of these receive releases distributed from this office, either directly or through the Associated Press, the United Press, or the International News Service.

(2) *The Weekly Press*: Here again, from this group, the health department has received exceptional co-operation. Each of the 147 weekly papers in the state receives every week a release

especially for this group. The 80 weekly papers of which the circulations are known have a combined circulation of 155,950 an average of approximately 1,950 each. It will thus be seen that through this medium, also, our health messages have been carried to a large segment of the rural population.

(3) *Radio Talks*: In addition to the regular weekly health department radio talks prepared for delivery over Station WSFA, Montgomery, the health department has co-operated with other groups in arranging special radio programs dealing with various aspects of health. The health department feels that radio broadcasting constitutes an important channel for the dissemination of health knowledge.

TUBERCULOSIS CONTROL

In the field of tuberculosis the past year has witnessed a greater activity and expansion than has heretofore been possible. Failure to sooner concentrate efforts of control upon this disease, known to be one of our major health problems, has been due entirely to lack of financial resources. It was only during the past year that the bill enacted into law in 1931, making provision for state participation through a subsidy to counties, became operative. The additional revenues accruing to the state through the luxury and liquor taxes have made this possible. This state aid to counties has not only proved a real boon to those counties now having their own sanatoria but has also acted as a stimulus to other counties to make hospital provision for their tuberculous. Within this period two such new hospitals have been opened, two existing ones enlarged and repaired, and at one or more points such district sanatoria are being seriously considered and planned for. Two additional tuberculosis experts have been attached to the tuberculosis division, thus bringing the number to four. Supplementing the activities of this staff, there has been added a fifth chest clinician—a colored physician—who, while being attached to the medical staff of the hospital of the Tuskegee Institute, is working in close co-operation with our organized health forces, not only in Macon County, but also in the East Alabama Health District, of which Macon County is a part. It will be recalled that the population of the seven counties comprising this area is predominantly Negro and that the control problems presented both in tuberculosis and the venereal diseases are major ones. At this juncture, it is appropriate to make mention of the interest and financial support now being given by the Rosenwald Fund in the department's efforts to bring a more expanded health service to the members of this race. The intensifying of activities in both of these fields has been made possible because of this support.

The members composing this tuberculosis staff are distributed over the state and serve both as consultants and advisors to the existing sanatoria, as well as conducting the diagnostic clinics in the surrounding area. The manner in which these added activities in this particular field, concededly long over due, have been received both by the medical profession and the

general public has served as a real stimulus to the health department to push forward as rapidly as possible with this program within its financial limitations.

Another stimulating activity in the field of tuberculosis is the intensive and detail study of the incidence of this disease now being conducted by the United States Public Health Service in conjunction with the health department in one of our most rural southern counties—Coffee. This county has the lowest tuberculosis death rate of any in this state. Exactly the same procedures applied in Coffee County are being also employed in a southern Tennessee county—Giles—just across Alabama's northern border, which has a much higher death rate from this disease. While too early to prophesy just where these investigations may lead, it would appear that there are certain factors hitherto unrecognized which enter into the prevalence and mortality of this disease.

CONTROL OF THE VENEREAL DISEASES

No less intensive effort has been put forth by the department for the control of the venereal diseases. In an attempt to set up the machinery on a state-wide basis for the control of this ubiquitous disease, in which treatment plays so important a part, every consideration has been given to the full utilisation of the practicing medical profession. The first most important service to be rendered this group was felt to be prompt, dependable, diagnostic laboratory facilities. Looking to this end the central laboratory and each of its eight branches have been so equipped as to provide a darkfield diagnostic, as well as the routine serologic test. To facilitate and encourage the use of the darkfield diagnosis for initial lesions mailing capillary-tube packages have been made available; further, approved medications for the treatment of syphilis are made available, without charge, by the health department for the treatment of these diseases, regardless of the economic status of the patient. Another contribution made available through the health department, and which has been most acceptable to the practicing profession, has been the making possible of short intensive courses to certain physicians throughout the state, selected by their county medical societies to receive this instruction. To further aid in the organization of a state-wide program, two full-time physicians, trained in the modern techniques of the diagnosis and treatment of these diseases, have been added to the central staff. These men meet with, aid, and advise with county medical societies in working out details of a program suitable for each county. While making these contacts with the medical profession they endeavour also to bring to them the latest knowledge concerning the diagnosis and treatment of these diseases. In planning such a state-wide program, sight could not be lost of the fact that 37 per cent of Alabama's population is Negro and that these diseases lay a heavy hand on this race. Through the generosity of the Julius Rosenwald Fund and the United States Public Health Service our central staff has had added to it two young, well trained Negro physicians to aid in this program

among their race. The physician furnished through the Rosenwald Fund is attached to the staff of the Tuskegee Institute Hospital and works in close co-operation with health department of Macon County. As a consequence of these efforts, coupled with an aroused interest and consciousness of both the profession and the public it is felt that a satisfactory start has been made, as evidenced by the fact that already there are more than 70 clinics functioning throughout the state. Superimposed upon these activities has been a continuing program of education through lectures, radio talks, motion pictures, newspaper articles, pamphlets and institutes for colored physicians and nurses.

INDUSTRIAL HYGIENE

During the current year satisfactory progress has been made through the newly created Division of Industrial Hygiene. A physician especially trained in occupational diseases and their control is in charge of this work and already has been able to render a valuable and appreciated service to many of the industries of the state. As the industrial life of this state quickens and expands the need will become more acute for the medical services for a specialist in this field. An effort will be made on the part of the health department to supply such need.

LABORATORY SERVICE

In the field of laboratory services, furnished through a system or chain of laboratories—comprising a central laboratory, in which are manufactured certain vaccines and biologics for state-wide use, and eight branches—encouraging progress and expansion have taken place. Through the diagnostic division of the central laboratory, during the calendar year 1937, 387,317 specimens were examined; this is the largest number ever examined by the bureau in any one year since its establishment, and was 27,278 more than the number examined in 1936, the next largest year. In terms of percentage, this represents an increase of 7.5 per cent.

In comparing the numbers of specimens of the different types received during 1936 and 1937, it is found that 1,324 fewer diphtheria specimens were examined; blood for agglutination tests increased by 1,231; typhoid cultures—blood, feces, and urine—increased by 1,389 specimens; and blood smears examined for malaria increased by 6,465, due partly to a continuation of malaria surveys in certain areas. Intestinal parasite examinations decreased by 30,503 specimens due to the completion of the state-wide survey started in 1935 and completed early in 1937. Serologic tests for syphilis increased by 37,868, and, in addition, 244 darkfield examinations for *trypomonema pallida* were made. Smears for the diagnosis of gonorrhea increased by 1,963 specimens, while examinations for tubercle bacilli increased by 1,746. Animal heads examined for evidence of rabies increased by 54, while water examinations increased by 1,052; and 455 more milk samples were examined. The increase in miscellaneous specimens examined was by 6,087 including 82 specimens of sputum for pneumococcus

typing, which represents a new procedure introduced during this year.

From the above it will be noted that there was an increase in the number of examinations of all kinds, except in the case of intestinal parasites and diagnostic, contact and release specimens for diphtheria. It is also to be noted that the number of animal heads examined for rabies in Mobile in 1935 was 60; in 1936 it was 172 and in 1937 it was 278. With regard to seasonal distribution, about three-fourths of these heads were examined during the first six months.

During this year the special Rabies Laboratory at Kilby was actually opened and is functioning smoothly. In the course of studies being conducted there, under the direction of Dr. C. N. Leach, of the Rockefeller Foundation, it was found that approximately ten per cent of the heads examined microscopically and reported negative, proved positive upon mouse inoculation. The research studies now going on in this laboratory, bearing on improved methods for rabies control, give much promise for the future.

In 1937 darkfield equipment was placed in all of the laboratories of the bureau for the first time, and this diagnostic facility thus made readily available to all the physicians of the state.

During the months of October and November a series of 17 meetings was held, at strategic points over the state, by the Committee on Postgraduate Study of the State Medical Association. The purpose of these meetings was to acquaint the physicians of the state with some of the newer phases of diagnostic and treatment of lobar pneumonia. A member of the laboratory staff was loaned to the committee to demonstrate and discuss methods of differentiation of the types of pneumococci. In this connection, it may be said that the Neufeld method of pneumococcus typing was introduced as a routine technique in all of the laboratories in the early part of November. Routine typing is limited to six types, namely, I, II, III, V, VII, and VIII. In those instances in which specimens examined routinely yield negative results, further study of the sputum is made in Birmingham or Montgomery for statistical purposes. It is hoped that in this way valuable information regarding the incidence of the different types of the pneumococcus in cases of lobar pneumonia in Alabama may be obtained.

Last year the Bureau of Laboratories was again fortunate in having two scholarships available from the United States Public Health Service under the Social Security Act. One member of the personnel was sent to the School of Hygiene and Public Health of the Johns Hopkins University and another to the University of Chicago for a year of graduate study.

During the year the Mobile Branch, which was housed in temporary quarters, moved into its former quarters, which had been extensively remodeled. The Tuscaloosa Branch has also been in temporary quarters during 1937, pending completion of a new city hall, in which new quarters are to be provided for the laboratory. The laboratory at Huntsville, which has heretofore been regarded as a substation of the Decatur Branch, assumed the status of a full branch as of January 1, 1938.

The Bureau of Laboratories again participated in the evaluation study of the sero-diagnostic tests for syphilis conducted by the United States Public Health Service.

The Vaccine Division prepared the following products:

Typhoid vaccine	755,909 cc.
Diphtheria toxoid	143,340 cc.
Rabies vaccine	126,596 cc.
Schick toxin	7,000 cc.
Sterile distilled water	672,950 cc.
Mercury benzoate	19,000 cc.
Sterile normal saline	30,000 cc.
Diagnostic bacterial antigens	600 cc.
Silver nitrate ampules	64,204
Wax vials for darkfield work	1,500

In addition to the above quantities of products, which were prepared in the central laboratory, the following products were bought in large containers, rebottled in smaller containers, and packaged for distribution:

Tuberculin (Koch's O. T.)	294 cc.
Cyclobis	50,200 cc.

However the above figures on production do not give an accurate picture of the quantity of products actually distributed, as they do not take into consideration the stock of products carried over from the preceding year, nor the amounts that are necessarily discarded due to contamination or the expiration of the period of potency.

The volume of products distributed, as a whole, showed an increase over the preceding year, although there was a noticeable decrease in the amount of typhoid vaccine distributed; the distribution of diphtheria toxoid compares favourably with that of the last year. The number of rabies treatments showed a slight decrease over 1936, and was especially noticeable in the last three months of the year. There was a marked increase in the manufacture and distribution of sterile distilled water—274,350 cc. for the year 1936 and 673,950 cc. for 1937—an increase of almost 300,000 cc.—which was caused by the expansion of the venereal disease program throughout the state. There was also a comparable increase in the amount of mercury benzoate and cyclobis distributed.

In the Field of Research Activities, the bureau's personnel engaged in research activities involving considerable time and labour. In collaboration with the Bureau of Preventable Diseases a study of the immunity status to diphtheria of preschool groups and of diphtheria carrier incidence was undertaken. In the immunity status study of the preschool group, 552 bloods were titrated for antitoxin content. This necessitated a total of 2,897 intracutaneous and 32 subcutaneous injections and involved a time equivalent of approximately two and one-half months for one worker. As a means of checking the accuracy of the methods used in the titration of serum for antitoxin content a three-way check of sixty serums was carried out in collaboration with the Laboratories of the State Department of Health of Michigan and the Connaught Laboratories of Toronto, Canada. The

diphtheria incidence survey involved the examination of 2,713 throat cultures. For this work over 40 liters of Loeffler medium and 50 liters of infusion tellurite blood agar were prepared, the project requiring approximately ninety working days of one member of the staff.

On October 15th, Dr. James G. McAlpine, Director of Laboratories, resigned and became Associate Professor of Bacteriology in the Medical School of the University of Maryland; temporary administration of the affairs of the bureau was assumed by Mr. Cooper Brougher, Assistant Director, pending the arrival of Dr. Samuel R. Damon on January 1st, 1938.

ENVIRONMENTAL SANITATION

In the Field of Environmental Sanitation, activities of the health department, during the past year, have shown a wholesome and gratifying growth. One of the most immediate and urgent needs in this field has been supplying to the organised county health units, in financial position to avail themselves of the services, trained personnel to function as sanitation officers. During the past year sixteen counties have thus been supplied, leaving but nineteen counties not yet equipped with sanitation officers. These counties are being urged to provide themselves with this much needed service. A further effort is being made to have ready suitably trained personnel to meet this demand, as well as to strengthen the central staff in order to better provide for the technical supervision which will be needed. As the sanitation programs in the counties have thus been expanded, the central office has put forth special effort to provide them with maps, surveys, graphs, and charts in order that they might have accurate and detailed information bearing on their problems. Our efforts in sanitation have been aided at many points through the willing co-operation of the State Highway Department and the Tennessee Valley Authority; particularly helpful have been the aerial maps supplied to us through these sources.

The Typhus Fever Control Program has been strengthened by the placing on the central staff of a full-time physician specially trained in this field. Through a grant by the Federal Government, to the Public Works Administration specifically for the control of typhus fever, programs of education, of rat proofing, and of rat extermination have been inaugurated at many points throughout the state which should be productive both of immediate and permanent results; and consequently, a reduction of typhus fever, which has, unfortunately, become endemic in this state.

In the Field of Malaria Control, we observe, after two years of high incidence of malaria, a rather sharp recession of more than forty-five per cent as compared with its incidence in 1936. Field studies as to the prophylactic value of atabrine in the control of clinical attacks were inaugurated last year under medical and nursing supervision and laboratory checking of blood specimens. This investigation will be continued sufficiently long in order to be able, if possible, to

draw definite conclusions as to the value of this drug. Similar studies conducted elsewhere seem rather definitely to indicate that atabrine, when administered during the malaria season, will prevent the occurrence of clinical attacks, and, consequently, should be of value in heavily infected areas. The results of the experimental work thus far done in Alabama with this drug are definitely encouraging.

Several significant and encouraging things have happened over and above these studies and the routine efforts put forth by this department. One was the passage by the 1937 legislature of a measure providing for a vote on a constitutional amendment to permit the people of one of our counties—Limestone—to express themselves through the ballot on being taxed in order to specifically provide funds for malaria control. This step, while a pioneer one, if successful, may lead to great possibilities for malaria control by counties on an organized basis. In two other counties, where malaria constitutes a major health problem, encouraging steps have been taken by official agencies which showed that some effort was being made to combat malaria on a county-wide basis rather than viewing it as a purely local problem. Applying this principle of county-wide control, the central health department, in co-operation with the Health and Medical Departments of the Tennessee Valley Authority, has worked out budgets providing for six malaria control engineers to be assigned exclusively to this work in eight of the counties in the Tennessee River basin area. Their first efforts will be directed toward an accurate definition of the malaria problem as it relates to each of these counties, and also to a general educative program. It is hoped that these initial efforts will be logically followed by workable programs looking to co-operation on a county-wide basis. During this year special effort has also been directed toward malaria control on artificial impounded projects, of which there have been many proposed or constructed.

In the *Field of General Sanitation* the volume of work accomplished throughout the state has made gratifying progress. The state-wide sanitation project begun in 1935, and using Works Progress Administration labor, was continued. 670 rural school privies were constructed, using all steel superstructure. The Resettlement Administration co-operated quite satisfactorily with the health department with the result that approximately 2,000 concrete pit privies have been installed at the homes of their clients. During the past year our sanitation officers have approved 6,024 new pit privies, 1,133 restored pit privies, 1,029 septic tanks, 51 restored septic tanks, and 1,780 sewer connections, serving a total population of 86,120. It is gratifying to record that as a result of the organized efforts of this sanitation program, municipalities are recognizing and assuming their responsibility of this phase of the problem of sanitation as well as that of sewer construction.

In the *Field of Inspection* considerable progress has likewise been made during the past year. The regulations governing all inspection activities conducted through the health department

were amended and modernised in many particulars. The most outstanding and progressive feature of these regulations, written into all of them, is that operators of food establishments, hotels, tourist camps, etc., and all establishments where alcoholic beverages are dispensed, must obtain permits from the local health officer for the continuation of operations, or before they may be begun; such permits to be predicated upon full compliance with these regulations. Following upon the organization of the Alabama Beverage Control Board, the issuance of a license to sell wines and liquors by this Board was predicated upon certificates to be issued by the health department that any establishment had complied with the sanitary regulations of the department. As a result of this requirement marked improvement was made in many existing public eating places, as well as in new establishments seeking to engage in this business. In addition to these activities, the Division of Inspection has been active in assisting in the building of abattoirs for local animal slaughter as well as aiding in the construction of pasteurization plants throughout the state.

HYGIENE AND NURSING

Considerable progress has been made in the expansion of services in the *Field of Maternal and Child Welfare*. Additional personnel has been made available to the central staff through increased funds from both state and federal sources. A full-time obstetrician has been added to further the interest in maternal welfare. The obstetrician has been designated by the Chairman of the Committee on Maternal and Infant Welfare of the State Medical Association to represent that committee when making followup visits regarding maternal deaths. Prenatal clinics are being organized in several counties in co-operation with the county medical societies and conducted by local physicians. The obstetrician visits these clinics to advise with those who conduct them.

The obstetrician has also been chosen to serve as secretary for the Committee on the Prevention of Cancer of the State Medical Association, which committee serves as the executive and advisory committee to the Alabama Women's Field Army of the American Society for the Control of Cancer. Much interest has been shown by many physicians and lay groups in the cancer educational program sponsored by the Committee on the Prevention of Cancer and the Women's Field Army. County medical societies are having meetings devoted to the discussion of cancer control and many lay organizations are asking for speakers on the subject. Radio talks on cancer have been given over several stations in the state. Newspaper and medical journal articles have been published to inform and to arouse the interest of the public and the physicians in cancer control.

Two obstetric nurses have been added to the personnel of the Bureau of Hygiene and Nursing and assigned to duty in Cullman County where the value of their services is being studied. They assist physicians in the homes of persons who are unable to pay for such nursing services

at the time of delivery. These home delivery nurses are supplied with sterile packages which include towels, gowns, sheets, and rubber gloves for the use of physicians attending deliveries of necessitous women. In addition to the services these nurses render at the time of delivery, they supplement the activities of the two county health nurses who are doing generalised public health nursing in prenatal clinics and home visiting to prenatal, postnatal and infant cases. This new activity is of the nature of an experimental demonstration and is being undertaken to determine the practicability and utilisation by physicians of such service, and also the area that can be covered by two nurses. One practicing physician has said that it is one of the best services rendered by the health department and that it not only assists but stimulates the physicians to practice better obstetrics. Both lay people and physicians view the service as a possible great help in the promotion of a better maternal and child health program.

The *Oral Hygiene Program* was reestablished during the year. The Health Committee of the Alabama Dental Association endorsed the state oral hygiene program at its annual meeting in Mobile last April. A dentist is in charge of the program and a dental health teacher, with special training in nutrition, serves with him. The dentist promotes the program in co-operation with the county departments of health and education, and local dentists. The program consists chiefly in the examination of all school children by local dentists, notification of parents and of educational work. The dentist and the dental health teacher lecture in the schools on care of the teeth and related subjects at the time the dental examination program is in progress. A second dentist was employed in January 1938 and has been assigned to duty in the East Alabama Health District. His services are similar to those already described for the dentist on the central staff.

The *Infant and Child Welfare Program* has continued under the direction of a pediatrician who has conducted conferences and clinics in many counties. Each patient seen at a conference, consultation or clinic is sponsored by the family physician so that the physician-patient relationship may be maintained. Panel discussions held in two districts were well attended by physicians who showed growing interest in the care of the infant and child. The pediatrician also assists county health officers in the examination of preschool children. A second pediatrician has recently been added to the staff and has been assigned to duty in the East Alabama Health District. Through the liberality and aid of the Children's Bureau a Negro pediatrician was added to the staff in July 1937. His services are rendered to the county health units and Negro physicians, in a manner comparable to that of the white pediatricians of the staff. It is pleasing to record that the work done through the colored pediatrician has been both helpful and much appreciated by our colored population.

A staff nurse, who has graduated as a midwife from the Lobenstine Clinic, returned to service in the *Midwife Control Program* after an absence of nearly a year. Her program is chiefly advis-

ory to the county health nurses in midwife control activities. She aids in the preparation of the midwife manual and year book and in the organisation of midwife clubs. Thirty-nine counties were visited by the advisory nurse-midwife of the state staff during the past year.

The four advisory nurses associated with the bureau have continued to work toward maintaining the proper standards for public health nursing throughout the field of health units. The standards which are laid down by the National Organisation for Public Health Nursing are used as a guide. Conferences are held with county health officers and nurses regarding nursing techniques and procedures. The administrative policies are determined by the county health officers and the nurse from the State Health Department, who enters a county, does so only as an adviser.

One hundred and thirty nurses were on duty with the fifty-six county health units on January 1, 1937. At the end of the year there were one hundred and forty-nine staff nurses with the sixty-six county health units. Eleven of the one hundred and forty-nine staff nurses were placed in newly organised counties and the remaining eight were additions to various local staffs. The addition of nurses was made possible through funds made available in the Social Security Act for maternal and child health services and increased local appropriations for public health. Practically all of the nurses render a generalised health nursing service.

Scholarships: Nine county health nurses were granted scholarships for periods of three months to receive postgraduate training in public health nursing at George Peabody College. Two of these trainees have been granted additional leave of absence to continue their study for periods of three months and six months respectively. Six nurses were granted scholarships for periods of four and one-half months to receive postgraduate training in public health nursing at the University of Kentucky. Two county health nurses were granted scholarships for periods of four and one-half months each and one county health nurse for nine months to receive postgraduate training at Teacher's College of Columbia University. Four Negro county health nurses were granted scholarships for a period of four months at the School of Nursing of the Medical School of Virginia.

VITAL STATISTICS

In the statistical field, which includes not only the accumulation of birth, death and marriage records, but also the tabulation and evaluation of disease incidence both as it pertains to the state, as a whole, and to its several counties—here, too, we can record encouraging progress.

In 1937, there were 47,100 records of births and deaths searched. Notifications of birth, which are mailed to parents showing that the birth of their child has been filed at the State Department of Health, totaled 55,438. It is estimated that more than 20,000 certificates were corrected. There were 27,291 queries mailed for the correction or completion of certificates.

Certificates of birth registered for 1913 were

reindexed; these numbered 48,047. The indexing of certificates of birth and deaths, which is required by the vital statistics law, is carried on continuously throughout the year. A complete index of all certificates filed in the State Department of Health is now available from 1908 to the present time. Beginning in 1937, a new indexing procedure was put into operation; formerly, the transcription of statistical data to tabulation cards and the indexing of certificates were performed by separate groups; now they are done in one procedure and by one group, thus economising in time and expense.

An extensive statistical study, involving more than 250,000 individuals in the hookworm survey, was completed for the Bureau of Preventable Diseases last November. Considerable assistance has also been given the Rockefeller Foundation in the tabulation of statistical data obtained in the special study of tuberculosis conducted in Lee County.

The demand for statistical information, both by professional and lay persons, continues to increase. This is gratifying, because one of the primary purposes of the registration of vital statistics in the State Department of Health is that it may be in position to furnish promptly such information.

Part III of the Board's report was adopted; as was the report as a whole.

REVISION OF THE ROLLS

The next order of business being the revision of the rolls of the Association, the Secretary was directed by President Sledge to proceed without interruption in the absence of objection. As a preface to the revision of the Roll of County Societies, the Secretary said:

"County Medical Societies, to comply with the Constitution, must meet certain obligations. First, an annual report, on forms furnished by the Association, must be filed with the Secretary; second, each society is expected to be represented at the annual meeting by at least one delegate; third, fees must be paid to the Treasurer of the Association for each delegate to which the society is entitled; and, fourth, dues are to be remitted to the Treasurer for each member."

With this foreword, the revision proceeded.

1. Revision of the Roll of County Societies:

(a) County societies which have fulfilled all their constitutional obligations: Bibb, Blount, Bullock, Calhoun, Choctaw, Coffee, Colbert, Connehuh, Crenshaw, Cullman, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Hale, Jackson, Jefferson, Lamar, Lawrence, Lee, Lowndes, Marengo, Marshall, Mobile, Monroe, Montgomery, Morgan, Pike, Talladega, Tallapoosa, Tuscaloosa, Walker, Washington, Wilcox, Winston—Total 38.

No objection being made as to the correctness of this report, the President directed that these societies be passed as clear on the books.

(b) County societies partially delinquent: In that they are not represented by delegates at this meeting of the Association—Autauga, Barbour, Butler, Cherokee, Clarke, Clay, Cleburne, Coosa, Dale, Dallas, Henry, Houston, Limestone, Macon, Madison, Perry, Pickens, Randolph, Russell and Sumter; for failure to remit required dues for delegates—Cherokee (1), Clarke, Clay, Cleburne, Coosa (1), Greene (1), Lauderdale, Marion (also county dues) and St. Clair (also county dues); for failure to submit annual report—Baldwin, Chambers, Chilton, Clarke, Covington, Lauderdale, Shelby and St. Clair.

No objection being offered as to the correctness of this report, the President directed that these societies be passed, with the understanding that the Secretary and Treasurer make an effort to collect outstanding dues.

(c) County societies totally delinquent: None.

Thereupon the Secretary said: "In revising the Roll of the College of Counsellors, five lists are prepared, designated respectively: (1) the schedule of counsellors clear on the books in regard to attendance and dues; (2) the schedule of delinquent counsellors—counsellors delinquent in attendance or dues, or against whom charges may be pending; (3) the schedule of miscellaneous counsellors—counsellors who have died since the last annual meeting, or have offered their resignation, or have moved out of the State, or out of their respective congressional districts; (4) the schedule of active counsellors of twenty years' standing, and (5) the schedule of counsellors-elect who have qualified as provided in the Constitution."

With such preface, the revision was continued.

2. Revision of the Roll of Counsellors:

(a) Counsellors clear on the books: Abernethy, Acker, Alison, J. F., and S. B., Anderson, Ashcraft, Beard, Bedsole, Burdeshaw, Cannon, Carter, Chenault, E. M., Craddock, Dabney, Dowling, Eskew, Garber, Gilder, Gragg, Granger, Gresham, W. A.; Hagood, Hatchett, Hayes, C. P., and J. P., Hill, R. L.; Hodges, Hubbard, James, Jordan, Leach, Ledbetter, Lester, Lewis, Long, Lull, Martin, J. A., Mason, E. M., Mayer, McAdory, McCall, Moore, Newman, Noland, Nolen, Oswalt, Parker, Perdue, Price, Ralls, Redden, Riser, Rountree, Rucker, Salter, Scarbrough, Scott, Searcy, Shropshire, Sledge, Smith, G. R., Tankersley, Taylor, Thacker, Thomas, Tillman,

Waldrop, Walker, Walls, Walsh, Welch, Weldon, White, Wilkerson, Williams, Wood, Wright.

In the absence of objection, the President ordered passed the names of these counsellors reported as clear on the books:

- (b) Delinquent Counsellors, None.
- (c) Miscellaneous Counsellors:
 - (1) Life Counsellors who have died: W. F. Betts, T. J. Brothers, H. T. Heflin and W. S. McElrath.
 - (2) Active Counsellors who have died: G. A. Cryer and W. H. Greer.
 - (3) Active Counsellors who have moved, None.
 - (4) Active Counsellors who have resigned: J. S. Hollis.
 - (5) Active Counsellors of twenty years' standing: E. V. Caldwell, W. E. Howell, A. A. Jackson, P. M. Lightfoot, J. M. Mason and R. A. Smith.
 - (6) Counsellors-Elect who have properly qualified: C. T. Acker, J. O. Belue, E. T. Brown, C. A. Grote, C. W. C. Moore, L. V. Stabler, W. A. Stallworth and C. K. Weil.

The President directed that the names of the deceased counsellors be transferred to the Book of the Dead; that the name of Dr. J. S. Hollis be removed from the roll; that Drs. Caldwell, Howell, Jackson, Lightfoot, Mason and Smith be transferred to the Roll of Life Counsellors; and that to the Roll of Active Counsellors be added Drs. Acker, Belue, Brown, Grote, Moore, Stabler, Stallworth and Weil.

3. Revision of the Roll of Correspondents:

Dr. T. M. McMillan, the 1938 Jerome Cochran Lecturer, was added to the Roll of Correspondents.

4. Revision of the Roll of Officers:

Dr. Seale Harris, Sr., Birmingham, was elected President; Dr. R. C. Stewart, Sylacauga, Vice-President of the Northeastern Division; Dr. J. U. Ray, Woodstock, Treasurer; and Drs. M. S. Davie and F. W. Wilkerson, Censors for five years, succeeding themselves.

Committees constitutionally provided to nominate counsellors brought in the following nominations: 2nd District—Drs. F. W. Pickell, M. H. Hagood, Brannon Hubbard; 3rd—F. R. B. Coggin; 4th—Jerre Watson; 5th—J. J. Walls; 6th—Chas. Abbott; 7th—Merle Smith, J. G. Daves, R. L. Hill; 8th—J. F. Huey, H. C. McCullough, H. M. Simpson; 9th—C. O. King, E. M. Mason and W. S. Rountree.

The ballot of the Association was cast for these nominees by the Secretary.

Miscellaneous Business

Montgomery was chosen as the 1939 meeting place.

Resolution was adopted conveying the Association's appreciation of courtesies shown it during the session.

President Harris and other newly chosen officers were presented, whereupon the Association was declared adjourned.

THE ROLL OF COUNSELLORS

REVISION OF 1938

LIFE COUNSELLORS

Name and Address	Date of Election
Andrews, Glenn, Montgomery (2)	1893
Baker, J. N., Montgomery (2)	1905
Bondurant, Eugene DuBose, Mobile (1)	1894
Caldwell, Edwin Valdivia, Huntsville (8)	1918
Cameron, Matthew Bunyan, Eutaw (6)	1893
Chenault, Frank L., Decatur (8)	1917
Crutcher, John Sims, Athens (8)	1915
Cunningham, William Moody, Jasper (7)	1912
Davie, Mercer Stillwell, Dothan (3)	1904
Faulk, William M., Tuscaloosa (6)	1913
Gordon, Samuel A., Marion (6)	1913
Gresham, George L., Andalusia (2)	1913
Guice, Charles Lee, Gadsden (5)	1899
Harper, Wm. Wade, Selma (4)	1902
Harris, Seale, Birmingham (9)	1903
Harrison, William Groce, Birmingham (9)	1896
Heacock, Jos. D., Birmingham (9)	1912
Heflin, Wyatt, Birmingham (9)	1893
Hendrick, Walter Branham, Hartsboro (3)	1915
Hill, Luther Leonidas, Montgomery (2)	1888
Hill, Robert Somerville, Montgomery (2)	1898
Howell, William Edward, Haleyville (7)	1918
Howle, James Augustus, Hartselle (8)	1895
Jackson, Alva A., Florence (8)	1918
Jones, Capers Capehart, East Lake (9)	1881
Lightfoot, Phillip Malcolm, Shorter (3)	1918
Lupton, Frank A., Birmingham (9)	1913
Martin, James Cordie, Cullman (7)	1917
Mason, James Monroe, Birmingham (9)	1918
McCain, William Jasper, Livingston (6)	1898
McLeod, John Calvin, Bay Minette (2)	1911
McLester, James Somerville, Birmingham (9)	1913
Mohr, Chas. A., Mobile (1)	1909
Morris, William E., Georgiana (2)	1913
Partlow, William Dempsey, Tuscaloosa (6)	1909
Prince, Edward Mortimer, Birmingham (9)	1909
Ray, Jacob Ussery, Woodstock (6)	1906
Sankey, Howard J., Nauvoo (7)	1914
Smith, Russell Aubrey, Brewton (2)	1918
Speir, Phillip V., Greenville (2)	1917
Talley, Dyer Findley, Birmingham (9)	1902
Thigpen, Charles Alston, Montgomery (2)	1900
Ward, Henry Silas, Birmingham (9)	1915
Wilkinson, David Leonidas, Birmingham (9)	1902
Total 44	

ACTIVE COUNSELLORS

Those marked with a † are serving last terms of six years.

Those marked with an asterisk (*) are serving second terms of seven years.

Those without a symbol are serving first terms of seven years.

The numeral is the number of the congressional district.

	Date of Elec- Expi- tion ration
Abernethy, Floyd L., Foley (2)	1933 to 1940
Acker, Charles T., Montevallo (6)	1937 to 1944
Acker, Paul Jerome Morris, Mobile (1)	†1937 to 1943

ACTIVE COUNSELLORS—Continued

	Date of Elec- Expi- tion ration
Alison, James F., Selma (4)	1934 to 1941
Alison, Samuel Blakemore, Minter (4)	†1933 to 1939
Anderson, Thos. J., Greensboro (6)	1933 to 1940
Appleton, Thomas H., Collinsville (5)	1936 to 1943
Ashcraft, Virgil Lee, Reform (7)	†1933 to 1939
Beard, Robert Briggs, Troy (2)	1932 to 1939
Bedsole, James Goodman, Jackson (1)	†1936 to 1942
Belue, Julius O., Athens (8)	1937 to 1944
Brown, Elridge T., Cleveland (7)	1937 to 1944
Brunson, Emmett T., Samson (3)	1936 to 1943
Burdeshaw, Shelby L., Headland (3)	†1935 to 1941
Cannon, Douglas L., Montgomery (2)	*1935 to 1942
Carter, William R., Repton (2)	1934 to 1941
Chenault, Erskine M., Decatur (8)	1935 to 1942
Craddock, French H., Sylacauga (4)	1932 to 1939
Dabney, Marye Y., Birmingham (9)	†1937 to 1943
Dowling, Judson Davis, Birmingham (9)	†1936 to 1942
Eskew, M. H., Uniontown (6)	1934 to 1941
Garber, James R., Birmingham (9)	1932 to 1939
Gilder, George S., Carbon Hill (7)	1934 to 1941
Gragg, Vincent Jones, Clanton (6)	†1935 to 1941
Graham, Geo. S., Birmingham (9)	1936 to 1943
Granger, F. G., Ashford (3)	*1935 to 1942
Gresham, Walter A., Russellville (7)	1933 to 1940
Grote, Carl A., Huntsville (8)	1937 to 1944
Hagood, M. H., Brewton (2)	†1938 to 1944
Hatchett, Wm. C., Huntsville (8)	*1936 to 1943
Hayes, Charles Phillips, Elba (3)	†1934 to 1940
Hayes, Julius Poe, Clanton (6)	†1934 to 1940
Hill, Robert C., York (6)	1936 to 1943
Hill, Robert L., Winfield (7)	†1938 to 1944
Hodges, Rayford, Scottsboro (8)	1935 to 1942
Howell, John V., Marion (6)	1936 to 1943
Hubbard, T. Brannon, Montgomery (2)	†1938 to 1944
James, Norman Gilchrist, Hayneville (2)	†1935 to 1941
Jordan, Samuel E., Highland Home (2)	1933 to 1940
Leach, Sydney, Tuscaloosa (6)	†1934 to 1940
Ledbetter, Samuel L., Jr., Birmingham (9)	1935 to 1942
Lester, Belford S., Birmingham (9)	†1937 to 1943
Lewis, Walter A., Enterprise (3)	1933 to 1940
Long, Clarence, Hurtsboro (3)	†1934 to 1940
Lull, Cabot, Birmingham (9)	†1933 to 1939
Martin, John A., Montgomery (2)	1933 to 1940
Mason, E. M., Birmingham (9)	†1938 to 1944
Mayer, Kossuth Aaron, Lower Peach Tree (1)	†1933 to 1939
McAdory, Edward Dudley, Cullman (7)	†1934 to 1940
McCall, Daniel T., Mobile (1)	†1937 to 1943
Moore, C. W. C., Talladega (4)	1937 to 1944
Moore, David S., Jr., Birmingham (9)	1932 to 1939
Newman, Samuel Harris, Dadeville (5)	*1932 to 1939
Noland, Lloyd, Fairfield (9)	*1936 to 1943
Nolen, John A. M., Alexander City (5)	†1934 to 1940
Oswalt, G. G., Mobile (1)	*1936 to 1943
Parker, Lorenzo D., Andalusia (2)	1933 to 1940
Perdue, James D., Mobile (1)	1933 to 1940
Price, Albert Bascom, Gordo (7)	†1933 to 1939
Ralls, Arthur W., Gadsden (5)	†1933 to 1939
Redden, Raymond Hollis, Sulligent (7)	*1933 to 1940
Riser, William H., Lafayette (5)	1935 to 1942
Rountree, W. S., Wylam (9)	†1938 to 1944
Rucker, Edmon W., Birmingham (9)	†1936 to 1942
Salter, Wilbur M., Anniston (4)	1934 to 1941
Scarborough, B. C., Albertville (5)	1935 to 1942
Scott, Walter F., Birmingham (9)	†1936 to 1942
Searcy, Harvey Brown, Tuscaloosa (6)	†1937 to 1943
Shropshire, Courtney William, B'ham (9)	†1937 to 1943
Sledge, Edward Simmons, Mobile (1)	†1936 to 1942
Smith, Gordon R., Ozark (3)	1934 to 1941
Stabler, Lorenzo V., Greenville (2)	1937 to 1944
Stallworth, William A., Frisco City (1)	1937 to 1944
Tankersley, James, Prattville (4)	*1935 to 1942
Taylor, Woodie R., Town Creek (8)	*1932 to 1939
Thacker Vincent J., Dothan (3)	1935 to 1942

ACTIVE COUNSELLORS—Continued

	Date of Elec- Expi- tion ration
Thomas, Eugene Marvin, Prattville (4)	†1934 to 1940
Tillman, John S., Clio (3)	1935 to 1942
Waldrop, R. W., Bessemer (9)	†1936 to 1942
Walker, Alfred A., Birmingham (9)	†1937 to 1943
Walls, J. J., Alexander City (5)	†1938 to 1944
Walsh, Groesbeck, Fairfield (9)	1933 to 1940
Weil, Clarence K., Montgomery (2)	1937 to 1944
Welch, Stewart, Birmingham (9)	1934 to 1941
Weldon, Joseph M., Mobile (1)	1935 to 1942
White, Alexander L., Thomasville (1)	*1935 to 1942
Wilkerson, Fred Wooten, Montgomery (2)	†1933 to 1939
Williams, Mark Johnson, Oxford (4)	†1934 to 1940
Wood, Wiley D., Camp Hill (5)	1933 to 1940
Wright, David H., Berry (7)	1932 to 1939
Total 90	

COUNSELLORS-ELECT

Abbott, Chas. E., Tuscaloosa (6)	1938 to 1945
Coggin, F. R. B., Waverly (3)	1938 to 1945
Daves, James G., Cullman (7)	1938 to 1945
Huey, John F., Falkville (8)	1938 to 1945
King, Chas. O., Birmingham (9)	1938 to 1945
McCullough, Henry C., Town Creek (8)	1938 to 1945
Pickell, Frank W., Brewton (2)	1938 to 1945
Simpson, Harry M., Florence (8)	1938 to 1945
Smith, Merle E., Parrish (7)	1938 to 1945
Watson, Jerre, Anniston (4)	1938 to 1945

THE ROLL OF THE COLLEGE OF COUNSEL-
LORS BY CONGRESSIONAL DISTRICTS

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly more than their pro rata share of Counsellors. The calculations are based on the nearest whole number. On April 1, 1938, there were 1,531 members in the County Medical Societies. That would give one Counsellor to every 15 members. The membership set forth in the following is that of April 1.

FIRST DISTRICT

Names of Counsellors—J. G. Bedsole and A. L. White, Clarke; E. S. Sledge, P. J. M. Acker, D. T. McCall, G. G. Oswalt, J. M. Weldon and J. D. Perdue, Mobile; W. A. Stallworth, Monroe; and K. A. Mayer, Wilcox.

County	Members	Counsellors
Choctaw	8	0
Clarke	10	2
Marengo	13	0
Mobile	98	6
Monroe	14	1
Washington	4	0
Wilcox	12	1
	159	10

SECOND DISTRICT

Names of Counsellors—F. L. Abernethy, Baldwin; L. V. Stabler, Butler; W. R. Carter, Conecuh; L. D. Parker, Covington; S. E. Jordan, Crenshaw; M. H. Hagood and F. W. Pickell, Escambia; N. G. James, Lowndes; T. B. Hubbard, F. W. Wilkerson; J. A. Martin, C. K. Weil and Douglas L. Cannon, Montgomery; and R. B. Beard, Pike.

County	Members	Counsellors
Baldwin	11	1
Butler	16	1
Conecuh	7	1
Covington	19	1
Crenshaw	10	1
Escambia	20	2
Lowndes	5	1
Montgomery	89	5
Pike	20	1
	197	14

THIRD DISTRICT

Names of Counsellors—J. S. Tillman, Barbour; C. P. Hayes and W. A. Lewis, Coffee; G. R. Smith, Dale; E. T. Brunson, Geneva; S. L. Burdeshaw, Henry; V. J. Thacker and F. G. Granger, Houston; F. R. B. Coggin, Lee; and Clarence Long, Russell.

County	Members	Counsellors
Barbour	14	1
Bullock	8	0
Coffee	15	2
Dale	11	1
Geneva	15	1
Henry	10	1
Houston	31	2
Lee	17	1
Macon	9	0
Russell	7	1
	137	10

FOURTH DISTRICT

Names of Counsellors—James Tankersley and E. M. Thomas, Autauga; W. M. Salter, Jerre Watson and M. J. Williams, Calhoun; J. F. Alison and S. B. Alison, Dallas; and French Craddock and C. W. C. Moore, Talladega.

County	Members	Counsellors
Autauga	5	2
Calhoun	41	3
Clay	8	0
Coosa	4	0
Dallas	34	2
Elmore	15	0
St. Clair	13	0
Talladega	25	2
	145	9

FIFTH DISTRICT

Names of Counsellors—W. H. Riser, Chambers; T. H. Appleton, DeKalb; A. W. Ralls, Etowah; B. C. Scarbrough, Marshall; and J. A. M. Nolen, J. J. Walls, S. H. Newman and W. D. Wood, Tallapoosa.

County	Members	Counsellors
Chambers	13	1
Cherokee	2	0
Cleburne	5	0
DeKalb	13	1
Etowah	49	1
Marshall	15	1
Randolph	14	0
Tallapoosa	18	4
	129	8

SIXTH DISTRICT

Names of Counsellors—J. P. Hayes and V. J. Gragg, Chilton; T. J. Anderson, Hale; M. H. Eskew and J. V. Howell, Perry; C. T. Acker, Shelby; R. C. Hill, Sumter; and Sydney Leach, H. B. Searcy and C. E. Abbott, Tuscaloosa.

County	Members	Counsellors
Bibb	13	0
Chilton	16	2
Greene	7	0
Hale	8	1
Perry	10	2
Shelby	16	1
Sumter	15	1
Tuscaloosa	44	3
	129	10

SEVENTH DISTRICT

Names of Counsellors—E. T. Brown, Blount; E. D. McAdory and J. G. Daves, Cullman; D. H. Wright, Fayette; W. A. Gresham, Franklin; R. H. Redden, Lamar; R. L. Hill, Marion; V. L. Ashcraft and A. B. Price, Pickens; and G. S. Gilder and M. E. Smith, Walker.

County	Members	Counsellors
Blount	12	1
Cullman	16	2
Fayette	10	1
Franklin	15	1
Lamar	10	1
Marion	12	1
Pickens	14	2
Walker	33	2
Winston	10	0
	132	11

EIGHTH DISTRICT

Names of Counsellors—Rayford Hodges, Jackson; H. M. Simpson, Lauderdale; W. R. Taylor and H. C. McCullough, Lawrence; J. O. Belue, Limestone; W. C. Hatchett and C. A. Grote, Madison; and E. M. Chenault and J. F. Huey, Morgan.

County	Members	Counsellors
Colbert	15	0
Jackson	14	1
Lauderdale	23	1
Lawrence	10	2
Limestone	13	1
Madison	30	2
Morgan	24	2
	129	9

NINTH DISTRICT

Names of Counsellors—G. S. Graham, S. H. Welch, Cabot Lull, R. W. Waldrop, W. F. Scott, E. W. Rucker, J. D. Dowling, M. Y. Dabney, B. S. Lester, C. W. Shropshire, Alfred A. Walker, E. M. Mason, W. S. Rountree, Lloyd Noland, J. R. Garber, D. S. Moore, Jr., Groesbeck Walsh, C. O. King and S. L. Ledbetter, Jr.

County	Members	Counsellors
Jefferson	373	19

THE ROLL OF CORRESPONDENTS

"Distinguished members of the medical profession residing outside of the State, and Counsellors of the Association, who after not less than ten years of faithful service may have resigned their counsellorships, shall be eligible for election as Correspondents.

"Correspondents shall have the privilege of transmitting or presenting to the Association such communications, or scientific essays, as they may deem proper."—*From the Constitution.*

Name and Address	Date of Election
Andrew J. Coley, Oklahoma City	1909
W. S. Thayer, Baltimore	1921
Lewellys F. Barker, Baltimore	1921
Rudolph Matas, New Orleans	1921
Frank Smithies, Chicago	1921
John B. Elliott, Jr., New Orleans	1921
Howard A. Kelly, Baltimore	1921
Wm. J. Mayo, Rochester, Minn.	1921
George W. Crile, Cleveland, Ohio	1921
Henry A. Christian, Boston	1921
J. Whitridge Williams, Baltimore, Md.	1921
Chas. H. Mayo, Rochester, Minn.	1922
H. A. Royster, Raleigh, N. C.	1926
Stewart Roberts, Atlanta	1927
G. Canby Robinson, Baltimore	1928
Louis B. Wilson, Rochester, Minn.	1930
R. S. Cunningham, Nashville	1932
A. Benson Cannon, New York	1932
J. Shelton Horsley, Richmond	1933
Russell L. Cecil, New York	1934
George H. Semken, New York	1935
Frank H. Lahey, Boston	1937
T. M. McMillan, Philadelphia	1938

SCHEDULE OF THE ANNUAL SESSIONS
AND PRESIDENTS SINCE THE RE-
ORGANIZATION IN 1868

Place and President	Year
Selma—Albert Galatin Mabry	1868
Mobile—Albert Galatin Mabry	1869
Montgomery—Richard Frazer Michel	1870
Mobile—Francis Armstrong Ross	1871
Huntsville—Thomas Childress Osborne	1872
Tuscaloosa—George Ernest Kumpe	1873
Selma—George Augustus Ketchum	1874
Montgomery—Job Sobieski Weatherly	1875
Mobile—John Jefferson Dement	1876
Birmingham—Edward Davies McDaniel	1877
Eufaula—Peter Bryce	1878
Selma—Robert Dickens Webb	1879

Place and President	Year
Huntsville—Edmond Pendleton Gaines	1880
Montgomery—William Henry Anderson	1881
Mobile—John Brown Gaston	1882
Birmingham—Clifford Daniel Parke	1883
Selma—Mortimer Harvey Jordan	1884
Greenville—Benjamin Hogan Riggs	1885
Anniston—Francis Marion Peterson	1886
Tuscaloosa—Samuel Dibble Seelye	1887
Montgomery—Edward Henry Sholl	1888
Mobile—Milton Columbus Baldridge	1889
Birmingham—Charles Higgs Franklin	1890
Huntsville—William Henry Sanders	1891
Montgomery—Benjamin James Baldwin	1892
Selma—James Thomas Searcy	1893
Birmingham—Thaddeus Lindley Robertson	1894
Mobile—Richard Matthew Fletcher	1895
Montgomery—William Henry Johnston	1896
Selma—Barckley Wallace Toole	1897
Birmingham—Luther Leonidas Hill	1898
Mobile—Henry Altamont Moody	1899
Montgomery—John Clarke LeGrande	1900
Selma—Russell McWhorter Cunningham	1901
Birmingham—Edwin Lesley Marechal	1902
Talladega—Glenn Andrews	1903
Mobile—Matthew Bunyan Cameron	1904
Montgomery—Capers Capehart Jones	1905
Birmingham—Eugene DuBose Bondurant	1906
Mobile—George Tighlman McWhorter	1907
Montgomery—Samuel Wallace Welch	1908
Birmingham—Benjamin Leon Wyman	1909
Mobile—Wooten Moore Wilkerson	1910
Montgomery—Wyatt Heflin Blake	1911
Birmingham—Lewis Coleman Morris	1912
Mobile—Harry Tutwiler Inge	1913
Montgomery—Robert S. Hill	1914
Birmingham—Benjamin Britt Simms	1915
Mobile—James Norment Baker	1916
Montgomery—Henry Green	1917
Birmingham—William Dempsey Partlow	1918
Mobile—Isaac LaFayette Watkins	1919
Anniston—James Somerville McLester	1920
Montgomery—Louis William Johnston	1921
Birmingham—Dyer F. Talley	1922
Mobile—Walter S. Britt	1923
Montgomery—W. W. Harper	1924
Birmingham—J. D. Heacock	1925
Mobile—C. A. Mohr	1926
Montgomery—A. L. Harlan	1927
Birmingham—John D. S. Davis	1928
Mobile—E. V. Caldwell	1929
Montgomery—L. E. Broughton	1930
Birmingham—W. G. Harrison	1931
Mobile—Toulmin Gaines	1932
Montgomery—Samuel Kirkpatrick	1933
Birmingham—James R. Garber	1934
Mobile—William M. Cunningham	1935
Montgomery—Charles A. Thigpen	1936
Birmingham—Lloyd Noland	1937
Mobile—E. S. Sledge	1938

SECRETARIES OF THE MEDICAL ASSOCIA-
TION OF THE STATE OF ALABAMA

1852-1854	George A. Ketchum
1854-1855	R. Miller
1869-1873	Jerome Cochran
1874-1878	B. H. Riggs

1879-1892	T. A. Means
1893-1897	J. R. Jordan
1897-1904	G. P. Waller
1904-1906	L. C. Morris
1906-1915	J. N. Baker
1915-1923	H. G. Perry
1923-1924	Douglas L. Cannon
1924-1930	B. B. Simms
1930-	Douglas L. Cannon

TREASURERS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

1854-1855	W. P. Reese
1869-1898	W. C. Jackson
1898-1915	H. G. Perry
1915-	J. U. Ray

SCHEDULE OF JEROME COCHRAN LECTURERS

- 1899—J. T. Searcy, Tuscaloosa—What Is Insanity?
 1900—Wm. Osler, Baltimore—Not present.
 1901—Wm. Osler, Baltimore—Not present.
 1902—Nathan Bozeman, New York—Declined.
 1903—George H. Price, Nashville—The History of Medicine.
 1904—W. S. Thayer, Baltimore—Cardiac and Vascular Complications of Typhoid Fever.
 1905—Robert Abbe, New York—The Problems of Surgery.
 1906—Joseph Collins, Boston—Arteriosclerosis.
 1907—Nicholas Senn, Chicago—Final Triumph of Scientific Medicine.
 1908—E. L. Marechal, Mobile—Absent.
 1909—Lewellys F. Barker, Baltimore—Clinical Methods of Cardiac Investigation.
 1910—Frank S. Meara, New York—Some Problems of Nutrition in Early Life.
 1911—Rudolph Matas, New Orleans—Inflammatory Tuberculosis.
 1912—Maurice H. Richardson, Boston—Elimination of Preventable Disasters from Surgery.
 1913—L. L. Hill, Montgomery—Surgical Complications and Sequelae of Typhoid Fever.
 1914—Frank Smithies, Chicago—Contributions of the Twentieth Century to the Better Understanding of Gastric Cancer.
 1915—John B. Elliott, Jr., New Orleans—Abscess of Liver.
 1916—Howard A. Kelly, Baltimore—Radium Therapy.
 1917—Wm. J. Mayo, Rochester—Importance of Septic Infection in the Three Great Plagues.
 1918—George E. Bushnell, Washington—The Army in Relation to the Tuberculosis Problem.
 1919—George W. Crile, Cleveland, Ohio—Abdominal Surgery in Civil and Military Hospitals.
 1920—Henry A. Christian, Boston—Bright's Disease With Special Reference to Its Treatment.
 1921—J. Whitridge Williams, Baltimore—A Critical Review of Twenty-One Years' Experience with Caesarean Section.
 1922—Chas. H. Mayo, Rochester, Minn.—The Thyroid and Its Diseases.
 1923—Jas. S. McLester, Birmingham—Nutrition in Its Newer Aspects.

- 1924—James S. Stone, Boston—Abdominal Diagnoses in Children.
 1925—H. A. Royster, Raleigh—The Surgeon's Heritage and Outlook.
 1926—Stewart Roberts, Atlanta—The Heart Muscle.
 1927—G. Canby Robinson, Baltimore—The Mechanism of Heart Failure and Its Correction.
 1928—John B. Deaver, Philadelphia—Chronic Pancreatitis.
 1929—Louis B. Wilson, Rochester, Minn.—Some Suggestions for Improved Training of Medical Specialists.
 1930—Walter E. Sistrunk, Dallas, Texas—The Part That Surgical Anesthesia Has Played in Medical Science.
 1931—R. S. Cunningham, Nashville, Tenn.—Studies on the Pathology of Tuberculosis and Syphilis.
 1932—A. Benson Cannon, New York—Practical Points on the Diagnosis and Treatment of the so-called Lymphoblastoma Group of Diseases.
 1933—J. Shelton Horsley, Richmond—Cancer of the Stomach and Colon.
 1934—Russell L. Cecil, New York—Present Trends in the Study of Rheumatic Fever and Rheumatoid Arthritis.
 1935—George H. Semken, New York—A Consideration of Tumors of the Breast.
 1936—William D. Partlow, Tuscaloosa—A Debt the World Owes Medical Science.
 1937—Frank H. Lahey, Boston—Carcinoma of the Colon and Rectum.
 1938—T. M. McMillan, Philadelphia—An Optimistic View of Some of the Problems of Heart Disease.

OFFICERS OF THE ASSOCIATION

1938-1939

PRESIDENT

SEALE HARRIS (1939).....Birmingham

VICE-PRESIDENTS

C. P. HAYES (1939).....Elba
 M. E. SMITH (1940).....Parrish
 A. B. COXWELL (1941).....Monroeville
 R. C. STEWART (1942).....Sylacauga

SECRETARY

DOUGLAS L. CANNON (1939).....Montgomery

TREASURER

J. U. RAY (1943).....Woodstock

THE STATE BOARD OF CENSORS

E. V. CALDWELL, Chm. (1940).....Huntsville
 S. A. GORDON (1940).....Marion
 J. D. PERDUE (1939).....Mobile
 LLOYD NOLAND (1939).....Birmingham
 M. S. DAVIE (1943).....Dothan
 F. W. WILKERSON (1943).....Montgomery
 T. B. HUBBARD (1942).....Montgomery
 W. D. PARTLOW (1942).....Tuscaloosa
 K. A. MAYER (1941).....Lower Peach Tree
 M. Y. DABNEY (1941).....Birmingham

STATE HEALTH OFFICER

J. N. BAKER (1940).....Montgomery

DELEGATES AND ALTERNATES TO THE AMERICAN
MEDICAL ASSOCIATION

Delegate—J. N. BAKER.....Montgomery
Delegate—A. A. WALKER.....Birmingham
Alternate—FRED WILKERSON.....Montgomery
Alternate—G. O. SEGREST.....Mobile
(Terms expire with the 1939 session of the
American Medical Association)

COMMITTEE ON PUBLIC RELATIONS

JOHN A. MARTIN, Chairman.....Montgomery
G. O. SEGREST.....Mobile
J. R. GARBER.....Birmingham
M. M. DUNCAN.....Huntsville
F. H. CRADDOCK.....Sylacauga

COMMITTEE ON MENTAL HYGIENE

FRANK A. KAY, Chairman, Tuscaloosa1941
W. S. LITTLEJOHN, Birmingham.....1939
J. G. BEDSOLE, Jackson.....1940

COMMITTEE ON MATERNAL AND INFANT WELFARE

A. E. THOMAS, Chairman, Montgomery1941
J. M. WELDON, Mobile.....1939
HUGHES KENNEDY, JR., Birmingham.....1940

COMMITTEE ON PREVENTION OF CANCER

J. P. CHAPMAN, Chairman, Selma1940
K. F. KESMODEL, Birmingham.....1941
H. M. SIMPSON, Florence.....1939

COMMITTEE ON PREVENTION OF BLINDNESS AND
DEAFNESS

J. T. CATER, Chairman, Montgomery.....1940
LUCIEN BROWN, Gadsden.....1939
B. B. WARWICK, Talladega.....1941

COMMITTEE ON POSTGRADUATE STUDY

RALPH McBURNEY, Chairman, University 1939
CABOT LULL, Birmingham.....1941
CLARENCE K. WEIL, Montgomery.....1940

COMMITTEE ON FRACTURES AND FIRST AID

H. EARLE CONWELL, Chmn, Birmingham 1939
MARCUS SKINNER, Selma.....1941
W. S. ROUNTREE, Wylam.....1940

REGISTRATION AT THE SEVENTY-FIRST CONSECUTIVE ANNUAL SESSION

Mobile, April 19-21, 1938

LIFE COUNSELLORS

Baker, J. N. Montgomery
Bondurant, E. D., Mobile
Cameron, M. B., Eutaw
Cunningham, W. M., Jasper
Davie, M. S., Dothan
Gordon, S. A., Marion

Harper, W. W., Selma
Harris, Seale, Birmingham
Heacock, J. D., Birmingham
Hill, R. S., Montgomery
Lupton, F. A., Birmingham
McLester, J. S., Birmingham

Mohr, C. A., Mobile
Partlow, W. D., Tuscaloosa
Ray, J. U., Woodstock
Speir, P. V., Greenville
Talley, D. F., Birmingham
Ward, H. S., Birmingham

ACTIVE COUNSELLORS

Abernethy, F. L., Foley
Acker, C. T., Montevallo
Acker, P. J. M., Mobile
Alison, S. B., Minter
Anderson, T. J., Greensboro
Ashcraft, V. L., Reform
Bedsole, J. G., Jackson
Brown, E. T., Cleveland
Burdshaw, S. L., Headland
Caldwell, E. V., Huntsville
Cannon, D. L., Montgomery
Carter, W. R., Repton
Craddock, F. H., Sylacauga
Dabney, M. Y., Birmingham
Dowling, J. D., Birmingham
Eskew, M. H., Uniontown
Garber, J. R., Birmingham
Gilder, G. S., Carbon Hill
Gragg, V. J., Clanton
Graham, G. S., Birmingham
Granger, F. G., Ashford
Gresham, W. A., Russellville

Hagood, M. H., Brewton
Hayes, C. P., Elba
Hayes, J. P., Clanton
Hodges, Rayford, Scottsboro
Hubbard, T. B., Montgomery
James, N. G., Hayneville
Jordan, S. E., Highland Home
Ledbetter, S. L., Jr., Birming-
ham
Lewis, W. A., Enterprise
Lull, Cabot, Birmingham
Martin, J. A., Montgomery
Mason, E. M., Birmingham
Mayer, K. A., Lower Peach Tree
McAdory, E. D., Cullman
McCall, D. T., Mobile
Moore, C. W. C., Talladega
Noland, Lloyd, Fairfield
Nolen, J. A. M., Alexander City
Oswalt, G. G., Mobile
Perdue, J. D., Mobile
Redden, R. H., Sulligent

Rountree, W. S., Birmingham
Rucker, E. W., Jr., Birmingham
Salter, W. M., Anniston
Scarbrough, B. C., Albertville
Searcy, H. B., Tuscaloosa
Sledge, E. S., Mobile
Smith, R. A., Brewton
Stallworth, W. A., Frisco City
Taylor, W. R., Town Creek
Thomas, E. M., Prattville
Tillman, J. S., Clio
Waldrop, R. W., Bessemer
Walker, A. A., Birmingham
Walls, J. J., Alexander City
Walsh, Groesbeck, Fairfield
Weil, C. K., Montgomery
Welch, S. H., Birmingham
Weldon, J. M., Mobile
White, A. L., Thomasville
Wilkerson, Fred, Montgomery
Wood, W. D., Camp Hill
Wright, D. H., Berry

DELEGATES

Baldwin: C. G. Godard, Fair-
hope; P. B. Skinner, Fair-
hope.

Bibb: R. O. Ingham, Centerville.
Blount: W. C. Miles, Oneonta; F.
F. Whitehead, Blountville.

Bullock: W. H. McCaslan, Union
Springs; H. R. Owen, Union
Springs.

- Calhoun: G. G. Woodruff, An-niston.
 Chambers: A. J. Perley, La-Fayette.
 Chilton: C. O. Lawrence, Clan-ton.
 Choctaw: W. J. Barber, Butler; H. A. McClure, Butler.
 Coffee: D. A. Bush, New Brock-ton; W. A. Stanley, Enter-prise.
 Colbert: O. W. Welch, Wilson Dam.
 Conecuh: E. L. Kelly, Ever-green; R. W. Stallworth, Evergreen.
 Covington: H. W. Waters, Opp.
 Crenshaw: W. T. Bayles, Lu-verne.
 Cullman: J. G. Daves, Cullman; M. S. Whiteside, Cullman.
 DeKalb: C. D. Killian, Ft. Payne.
 Elmore: C. S. Cotlin, Jr., We-tumpka; E. G. Moore, Tal-lassee.
 Escambia: W. J. Donald, Brew-ton; J. O. Lisenby, Atmore.
 Etowah: DeWitt Faucett, Gads-den; O. R. Grimes, Gadsden.
 Fayette: B. W. McNease, Fay-ette; R. V. Taylor, Fayette.
 Franklin: J. S. Snoddy, Russell-ville.
 Geneva: G. H. Putnam, Slo-comb.
 Greene: C. D. Mason, Eutaw.
 Hale: I. H. Griffin, Moundville; D. R. Ramey, Akron.
 Jackson: A. S. Dix, Scottsboro; M. H. Lynch, Scottsboro.
 Jefferson: N. L. Andrews, Bir-mingham; J. L. Carmichael, Birmingham; C. O. King, Birmingham; R. O. Russell, Birmingham; P. W. Shan-non, Birmingham; S. R. Ter-hune, Birmingham.
 Lamar: C. A. Davis, Kennedy; J. A. Jackson, Sulligent.
 Lawrence: H. A. McCullough, Town Creek.
 Lee: Frank Boyd, Opelika; F. R. B. Coggin, Waverly.
 Lowndes: E. F. Leatherwood, Hayneville.
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 Morgan: J. F. Huey, Falkville; A. M. Roan, Decatur.
 Perry: A. F. Wilkerson, Marion.
 Pike: O. N. Edge, Troy.
 St. Clair: Frank Stitt, Pell City.
 Shelby: E. F. Sloan, Colum-biana.
 Talladega: R. C. Stewart, Talla-dega; J. M. Washam, Talla-dega.
 Tallapoosa: J. A. Chapman, Alexander City; J. F. Farga-son, East Tallassee.
 Tuscaloosa: J. P. Collier, Tusca-loosa; Stuart Graves, Tusca-loosa.
 Walker: J. C. Gladney, Jasper; M. E. Smith, Parrish.
 Washington: W. J. Blount, Millry.
 Wilcox: R. E. Dixon, Alberta; Paul Jones, Camden.
 Winston: C. A. Olivet, Haley-ville.

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 Inge, J. T., Mobile

J

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 Jones, W. N., Birmingham
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 Jordan, O. L., Tuscaloosa

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Kirby, L. E., Birmingham
Knight, J. H., Birmingham

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McVay, L. V., Mobile
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Mulherin, H. G., Mobile

N

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O'Gwynn, J. C., Mobile
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Sumner, I. C., Mobile

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Taylor, R. V., Jr., Mobile
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Thames, Eugene, Mobile
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Tisdale, W. C., Mt. Vernon
Turlington, L. F., Birmingham
Turner, W. H., Dothan

U

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Wise, I. M., Mobile
Wood, A. A., Mobile
Woodruff, L. H., Tuscaloosa

Z

Zieman, A. H., Mobile

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Theo Beilstein, Philadelphia, Pa.
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D. L. Stewart, Birmingham
John Tappan, Atlanta, Ga.

SUMMARY OF ANNUAL ATTENDANCE

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1910	10	44	83	157	51	344	Mobile
1911	14	53	66	139	19	291	Montgomery
1912	16	63	92	348	40	559	Birmingham
1913	7	49	83	124	17	280	Mobile
1914	16	67	85	226	20	414	Montgomery
1915	32	74	108	429	49	692	Birmingham
1916	19	66	92	106	41	306	Mobile
1917	18	64	96	199	32	409	Montgomery
1918	27	63	80	257	44	471	Birmingham
1919	22	43	87	94	102	348	Mobile
1920	16	61	59	85	51	272	Anniston
1921	26	65	73	183	58	405	Montgomery
1922	26	72	76	314	68	556	Birmingham
1923	14	48	66	106	50	284	Mobile
1924	29	70	84	230	79	492	Montgomery

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1925	27	78	97	328	113	643	Birmingham
1926	33	74	105	194	131	537	Mobile
1927	36	85	104	252	87	564	Montgomery
1928	33	77	108	507	106	831	Birmingham
1929	19	60	102	176	109	466	Mobile
1930	32	83	106	286	102	609	Montgomery
1931	26	80	116	410	158	790	Birmingham
1932	19	60	101	158	133	471	Mobile
1933	21	74	103	264	85	547	Montgomery
1934	26	75	97	404	53	655	Birmingham
1935	15	59	91	180	83	428	Mobile
1936	23	79	95	265	68	530	Montgomery
1937	25	80	96	396	81	678	Birmingham
1938	18	65	78	157	63	381	Mobile

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

EFFECTS OF BREATHING DUSTS

When dusts, fumes or smoke are breathed, only the portion which is retained has important physiologic significance. From experiments on man it has been shown that, in dusty air, the number of particles retained is approximately 40 to 60 per cent of the total inspired. Although these experiments do not show directly whether the retained particles reach the alveoli or are caught in the upper respiratory passages, they indicate that slow, deep breathing results in greater alveolar penetration than rapid, shallow breathing. It appears to make little difference whether the suspensions are inspired through the nose or through the mouth since the dust catching efficiency of both passages is very poor.

The dusts (particles from about 0.5 micron to 150 micra in size) which are of hygienic significance may be considered under three classifications:

(a) Dusts which are specifically toxic and comparatively rapid in their manifestations, but which do not cause lung fibrosis.

(b) Dusts which cause lung fibrosis (pneumoconiosis) after several years exposure.

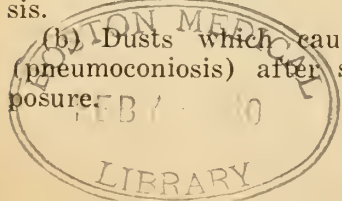
(c) Dusts which are non-toxic and which do not cause fibrosis.

TOXIC DUSTS

It is well known that the inhalation of certain organic dusts, such as wood dust and pollens of certain flowers and grasses, frequently cause diseases like asthma and hay fever. The particles producing these effects are often large enough (15 micra or more) to prevent their entrance into the alveoli.

Lead poisoning, resulting from the inhalation of dusts from lead ores and lead compounds, such as those used in the manufacture of paints and storage batteries, for example, has been known for a great many years. The inhalation of dusts from the ores and compounds of manganese is also quite hazardous. The dust generated by the mining of cinnabar, the common ore of mercury, and the carroting of rabbit furs in the felt hat industry, is sufficiently dangerous to demand rigid control of the processes and medical supervision of employees. Significant amounts of radio-active salts were found in the air of a plant where radium paint was applied to the dials of watches.

Numerous examples could be cited, but the important characteristic which they all have in common is that the particles of toxic dusts which may cause systemic dam-



age are those which are small enough to be carried by moderate air currents. Their action is generally specific and their presence in the working environment constitutes a serious hazard to health.

DUSTS WHICH PRODUCE LUNG FIBROSIS (PNEUMOCONIOSIS)

A specific pathologic condition of lung fibrosis results from inhaling excessive amounts of certain dusts over considerable periods of time, the particles ranging in size from 0.5 to 10 micra.

The dusts which are most injurious are usually found to contain a high percentage of free, crystalline silica and proceed from the drilling, crushing, cutting and polishing of such minerals as granite, quartz, flint or sandstone. Considerable amounts of these substances may be taken by mouth with no toxicologic effort. The pneumoconiosis produced by inhaling them is termed silicosis. Whether other pneumoconioses, such as anthracosis from coal dust, or siderosis from iron dust, are definite pathologic entities and etiologically distinguishable from silicosis seems quite doubtful indeed.

Cases of pneumoconiosis are generally found among workers with histories of long exposure to dusts which contain appreciable amounts of free silica or quartz. The occupations which offer such exposure are abrasive workers, bench molders (foundry), bisque-kiln workers, blasters, silica brick and refractories workers, buffers, casting cleaners (foundry), core makers, glass workers, drillers, fertilizer makers, flint workers, grinders, granite workers, polishers, sand blasters, sand cutters, scouring powder makers, stonecutters and many others.

There are now sufficient data at hand to estimate the severity of a silicosis hazard from the percentage of free silica in the dust, the concentration of the dust in the breathing zone, the particle size, and the length of exposure.

The manner in which silica exerts its fibrosing effect in the lungs is not known. The theory that it is caused by the sharpness or the hardness of the particles breathed has been refuted rather convincingly. The artificial abrasives, aluminum oxide (Al_2O_3) and silicon carbide (SiC) are harder than quartz but apparently do not cause fibrosis. It has long been a question

whether pure silicates like asbestos, talc and cement, in the absence of free silica (SiO_2), produce fibrosis. However, recent studies are bringing forth evidence to show that they can, although not to such serious extent.

The reason why pneumoconiosis is dangerous, especially in its advanced stages, is that it renders its victims easy prey to the development and ravages of tuberculosis. Thus, should signs of tuberculosis develop in a middle age or elderly workman, the physician may be able to throw considerable light on his case if he finds out the degree and kind of dust exposure, if any, his patient has had during the preceding 20 years. In this way many cases of silicosis and silico-tuberculosis will be picked up.

It is now possible to detect early, as well as late, fibrosis of the lungs by means of the x-ray, and there is good evidence to show that, if the patient is removed from further dust exposure before pulmonary tuberculosis sets in, he may be saved from the final stages of the disease.

NON-TOXIC DUSTS

Dusts like carbon, gypsum, magnesia, cotton lint and the like are not specifically toxic and it is doubtful whether they produce fibrosis of the lung. Erroneous conclusions have been drawn as to the severity of these dusts from over-dusting experiments in animals. Abnormally high morbidity and mortality rates from upper respiratory infections and pneumonia are sometimes attributed to chronic exposure to non-toxic dusts, but it is not possible at the present time to give even approximate figures for dangerous concentrations of these substances in the breathing zone.

W. F. Q.

INTERSTITIAL KERATITIS

Interstitial keratitis is the commonest lesion of late congenital syphilis. Over fifty per cent of the patients with congenital syphilis will develop this lesion and the patient is continuously subject to a risk of it up to 25 years of age.

Early diagnosis and prompt institution of treatment are essential if the involved eye is to be protected from severe scarring and if involvement of the second eye is to be prevented. Modern continuous anti-

syphilitic treatment of congenital syphilis will prevent to a great degree the development of interstitial keratitis. Treatment should be continued for at least a year and a half to two years.

When interstitial keratitis has developed, treatment should be heroic. In the past, many of the failures have resulted from a lack of intensive treatment. This has led to a belief that the arsenicals are dangerous in the treatment of this condition. Statistics have shown that treated cases obtain better results than those untreated. Moore¹ states that, in treated cases, 74 per cent showed full vision in the better eye, whereas, in untreated cases, 8.5 per cent were blind with only 38% showing excellent results. Cole et al² show that patients who were adequately treated for more than a year had a higher proportion of satisfactory results (62 per cent) than those treated for a shorter period of time (49 per cent).

The plan of treatment used by Moore in the syphilis clinic at the Johns Hopkins Hospital consists of courses of arsphenamine alternating with courses of bismuth. Arsphenamine is superior to neoarsphenamine and the average dose is larger than in patients with less serious lesions of syphilis. Children tolerate the arsenicals well; and arsphenamine dose should be 0.1 gram per 25 pounds of body weight, neoarsphenamine 0.15 gram per 25 pounds of body weight and sulpharsphenamine 25 mgm. per 2.2 pounds of body weight. Potassium iodide is given simultaneously during the first course of the arsenical in a dosage of 45 to 105 grains per day. A series of 15-20 daily intravenous injections of a soluble mercurial salt, such as mercury succinimide, 0.01 gram, is given, except on the day of the arsenical injection. Mercury rubs should be given to children whose veins are too small for intravenous therapy. The alternating scheme of treatment is the same as the outline that has been suggested by this department.

1. Moore, J. E.: *The Modern Treatment of Syphilis*. Springfield, Ill.: Charles G. Thomas, Publisher.

2. Cole, N. C., Usilton, L. J., Moore, J. E., O'Leary, Paul A., Stokes, John H., Wile, Udo J., Parran, Thomas and Vondelehr, R. A.: *Venereal Disease Information*, U. S. P. H. S., April 1937.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

May 1938

Examinations for diphtheria bacilli & Vincent's	859
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	758
Typhoid cultures (blood, feces, urine)	1,025
Examinations for malaria	2,359
Examinations for intestinal parasites	2,296
Serologic tests for syphilis (blood and spinal fluid)	16,199
Darkfield examinations	38
Examinations for gonococci	1,528
Examinations for tubercle bacilli	1,657
Examinations for Negri bodies (microscopic)	152
Water analyses (bacteriologic)	870
Milk examinations	1,907
Pneumococcus typing	24
Miscellaneous	1,018
Total specimens	30,690

LABORATORY TEST FOR PELLAGRA

Spies, in his study of pellagra, finds that porphyrin is excreted in the urine of most pellagrins at all stages of the disease, the substance being constantly present until adequate treatment has been administered.

A simple, chemical, laboratory test for porphyrinuria has been described by Spies. The test is of great diagnostic significance in early cases where the clinical symptoms are indefinite. Since the test is a clinical laboratory procedure there is no thought of its inclusion in the public health laboratory system of the state. However, a study of the test has been made in the Central Laboratory at Montgomery for the purpose of demonstration and instruction in the mechanics of the test to interested practicing physicians and their laboratory technicians.

Arrangement for such demonstration and instruction may be made by communication with the Director of Laboratories.

The test as outlined is given below. For more detailed information the reader is referred to the original article by Dr. Spies in the May 1938 issue of the *Southern Medical Journal*.

BECKH, ELLINGER AND SPIES TEST FOR PORPHYRIN

A measured portion, 10 cc. of urine, is put into a separatory funnel and is acidified

with glacial acetic acid (about 0.2 cc.) to a pH of 4.0. Fifteen to twenty cc. of C. P. ether is added, and the mixture is shaken for several minutes to insure complete extraction of the porphyrin. The lower aqueous layer is separated out and the ether portion is washed twice with 10 to 15 cc. portions of distilled water. To the ether extract is added 3 cc. of 25% HCl. The mixture is shaken and then is transferred to a test tube, in which the acid and ether layers are allowed to separate. The hydrochloric acid portion is examined for porphyrin content. In positive specimens the acid layer is colored from pink to purple.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

COMMON VEGETATION ASSOCIATED WITH ANOPHELINE MOSQUITO PRODUCTION

A very simple rule for the control of anopheline mosquitoes is: "Keep the vegetation out of the water or the water out of the vegetation."

It would be a physical impossibility to follow the above rule, but malaria workers should strive to reach this ideal condition by devoting more thought and study to the various types of vegetation that are associated with anopheline mosquito production.

The typical breeding areas for the *Anopheles quadrimaculatus* mosquito, which is practically the sole vector of malaria in Alabama, are permanent or artificial ponds and ditches well grown up with vegetation. The areas of maximum production are artificially created lakes where the basin to be flooded has not been properly prepared. High production may be expected until the lake reaches a "biologic balance." The time required for this change varies from a year, in lakes where proper consideration has been given to preparation of the basin, to ten years or more where no such measures were taken.

While the "biologic balance" is being obtained, a new problem enters into the control operations, namely, the control of aquatic and semi-aquatic plants. The changes undergone during the first few years are the adaptations of terrestrial plants to the semi-aquatic habitat. Following this period, the true aquatic plants begin to invade the area.

The trees and shrubs which appear to withstand continuous inundation are bald cypress, button ball, black willow, and tupelo gum. The species which survive extended periods of flooding with little or no injury are cottonwood, green ash, honey locust, red maple, overcup oak, persimmon, silver maple, and willow oak.

Below is a partial list of the more important aquatic and semi-aquatic plants encountered in mosquito control work with their habitats and distribution:

Muskgrass (*Chara*)—natural and artificial ponds with water of a high alkalinity—throughout the state.

Muskgrass (*Nitella*)—associated with *Chara*.

Pondweed (*Potamogeton diversifolius*)—shallow quiet waters—throughout the state.

Giant cutgrass (*Zizaniopsis mileacea*)—in shallow water, particularly on large impounded water projects—throughout the state.

Redtop panic-grass (*Panicum agrostoides*)—in the zone of fluctuation on several large impounded water projects—appears to withstand submergence well.

Softstem bulrush (*Scirpus validus*)—in both natural and artificial ponds—growing in from two inches to twenty-four inches of water—throughout the state.

Rush (*Juncus effusus*)—Same habitat and distribution as softstem bulrush.

Smartweed (*Persicaria spp.*)—In both natural and artificial ponds—growing in situations from moist soil to water three feet deep—throughout the state.

Hornwort of Coontail (*Ceratophyllum demersum*)—in waters high with alkalinity—particularly in northern and southeastern Alabama.

Water milfoil (*Myriophyllum pernatun*)—same habitat and distribution as hornwort.

Rosemallow (*Hibiscus militaris*)—herbaceous plant occupying the upper limits of the zone of fluctuation on impounded water projects.

Creeping water-primrose (*Jussiaea diffusa*)—in artificial and natural ponds—lying on the water surface—has been identified in Autauga County and the counties of the Tennessee Valley.

Water willow weed (*Dianthus americana*)—in streams and impounded water projects located in the northern half of the state. A very hardy species that is difficult to eradicate except by persistent effort.

Cattail (*Typha latifolia*)—in marshes and ponds throughout the state.

Cow lily (*Nymphaea advena*)—in still or slow-moving water throughout the state.

Water lily (*Castalia odorata*)—same habitat and distribution as the cow lily.

Fork grass (*Paspalum distichum*)—in shallow areas of ponds—throughout the state.

The above is only a partial list of the plants associated with anopheline mosquito production. It should behoove the malaria

worker to familiarize himself with the plants that he encounters year after year in his work. With this knowledge of what we are confronted with as a starting point, we shall be on sound ground in developing an efficient and economical method of controlling the various types of vegetation.

J. C. C.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

ROUND-UP OF PRESCHOOL CHILDREN

The following letter, dated May 19, 1938, received from Dr. Carl A. F. Holler, DeKalb County Health Officer, is of sufficient interest to warrant publication herein:

Dear Dr. Austin:

This is to report the spring round-up of preschool children in DeKalb County for 1938.

The round-up began with knowledge of the fact that for success there would need to be excellent organization and much work. It was estimated that 1100 children would enter school in DeKalb County for the first time in the fall of 1938. In view of the fact that the county is largely rural, the goal for the number of examinations was set at 800. A county P.-T. A. meeting at which you discussed this subject was the initial spark for setting off the round-up.

The county superintendent, Mr. George Hulme, selected 16 key points throughout the county, places most easily accessible to the people. This department then arranged the schedule beginning March 29th through April 19th.

At the first appointment we had no children. The Departments of Education and Health then went into a huddle and enlisted the services of the County Attendance Worker and the Elementary Supervisor. With good cooperation and hard work we completed the appointments and examinations of preschool children, age 6 or over, who would enter school for the first time this fall. The number examined was 594.

The clinics were limited to age 6 or over because it was felt that a fair percentage of these would give us a day's work at each place. The average of all clinics was 37. Bad weather and roads kept away quite a number.

Suitable places, consisting of at least two rooms, were prearranged. Those children whose parents could not come were brought by older children on the regular school bus. School authorities then blazed the trails making arrangements for parents and children to be ready when the bus came along a short time later. Individual cars were used on occasion for transportation. At no time, however, did the Health Department engage in transportation. It was felt that it was the duty of the Department of Education to provide the children, the duty of the Health Department to make the examinations.

One nurse, with the help of two high school girls or teachers, filled out the forms, tested eyes

carefully and pacified parents and children. In another room the other nurse looked after the preparation of children for examination and gave the immunizations. The Health Officer made the examination and advised parents. Reasonable amount of time was spent on each examination and much patience was found necessary.

The examination was quite thorough. An otoscope proved very convenient since an epidemic of measles had been in progress during the winter. Eyes were carefully examined, as were teeth, gums, and throat. Each child was stripped to the waist enabling the examiner to make a rather complete chest examination. Bone, skin and general examinations were made. Genitals in males were carefully checked and hernias watched for. Defects were pointed out and corrections advised.

Where time permitted, school children were given the privilege of immunizations which resulted in 799 smallpox vaccinations and 120 inoculations for diphtheria.

During the 594 preschool examinations the following defects were found:

Eyes 29	Ears 21	Teeth 228	Nose and Throat 184	Skin 21
Lungs 1	Heart 8	Genitals 42	Nutrition 137	Others 12

(There were 4 children with hernias, 5 with rickets, 1 with hemorrhoids, and 2 with orthopedic defects.)

No doubt, a great number of these defects will be corrected before school begins this fall. Parents were present in 92% of cases. Older brothers and sisters or teachers notified parents of the defects in the remaining 8%.

A few things we learned are:

1. Successful preschool clinics depend on intensive organization. The big problem is getting the children.
2. It is wise to forget how to be discouraged.
3. In rural areas the efforts of the Department of Education are indispensable.
4. April is a convenient month for clinics in DeKalb County because:
 - (a) There is little conflict with farm work.
 - (b) School enthusiasm runs high at this time.
 - (c) About the right length of time remains before school begins for a maximum of corrections.
5. Parents expect, and rightly so, a thorough examination of their child.
6. Arrangements should be made for feeding children held over the noon hour.
7. Preschool clinics furnish an excellent situation for general health education.

We expect a considerably better response to these clinics in 1939.

Sincerely yours,

Carl A. F. Holler, M. D.
County Health Officer
Ft. Payne, Ala.

"Within the past few years Hollandaise sauce has been implicated in several outbreaks of food poisoning in Baltimore, and elsewhere in the United States. Where investigated it was revealed in many instances that the sauce involved in the outbreaks contained bacteria which were capable of producing the offending toxin."—*Baltimore Health News*, April '38.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA 1938

	April	May	Estimated Expectancy May
Typhoid	7	23	22
Typhus	15	16	11
Malaria	113	266	262
Smallpox	26	9	7
Measles	3668	1226	479
Scarlet fever	38	24	28
Whooping cough	228	191	162
Diphtheria	36	32	38
Influenza	268	109	154
Mumps	200	81	110
Poliomyelitis	2	5	2
Encephalitis	3	4	3
Chickenpox	294	98	156
Tetanus	7	4	3
Tuberculosis	265	277	332
Pellagra	31	93	61
Meningitis	27	20	9
Pneumonia	360	239	254
Syphilis	2573	1952	232
Chancroid	8	8	8
Gonorrhea	333	264	189
Ophthalmia neonatorum	0	0	2
Trachoma	0	0	0
Tularemia	1	0	3
Undulant fever	3	4	4
Dengue	0	0	0
Amebic dysentery	1	1	0
Rabies—Human cases	0	0	0
Positive animal heads	79	69	...

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

Dr. Kellie N. Joseph, formerly of the staff of the State Department of Health in charge of its tuberculosis work in the Tennessee Valley area, is now engaged in practice in Birmingham, his field being limited to diseases of the chest.

* * *

Joint meeting of the Northeastern and Northwestern Divisions of the Association was held at Susan Moore High School, Clarence, on June 2 with Dr. W. B. Anderson of Nashville as guest essayist. Members of the Association contributing papers were Drs. A. B. Harris and Cecil D. Gaston of Birmingham; J. O. Morgan, Gadsden; and C. A. Grote, Huntsville.

The divisions were guests of Drs. D. S. and J. G. Moore at a barbecue following the assembly.

* * *

The 17th annual scientific and clinical session of the American Congress of Physical Therapy will be held cooperatively with the 22nd annual convention of the

American Occupational Therapy Association, September 12, 13, 14, and 15, 1938, at the Palmer House, Chicago. Preceding these sessions, the Congress will conduct an intensive instruction seminar in physical therapy for physicians and technicians—September 7, 8, 9, and 10.

The convention proper will have numerous special program features, a variety of papers and addresses, clinical conferences, round table talks, and extensive scientific and technical exhibits.

The instruction seminar should prove of unusual interest to everyone interested in the fundamentals and in the newer advances in physical therapy. The faculty will be comprised of experienced teachers and clinicians; every subject in the physical therapy field will be covered. Information concerning the convention and the instruction seminar may be obtained by addressing: The American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

* * *

The \$150,000 reproduction of the Sir Luke Fildes masterpiece, "The Doctor," first shown by the Petrolagar Laboratories at Chicago's Century of Progress Exposition in 1933, was recently presented by its owners to the new Rosenwald Museum of Science and Industry in that city.



Following the two World's Fairs, "The Doctor" exhibit went on a tour of 50,000 miles and was viewed by over five million people in 18 principal cities throughout the country.

Designed to remind the public of the importance of the family physician, it required the full time of the late Chicago sculptor, John Paulding, and the noted artist, Ru-

dolph Ingerle, and a large corps of assistants, and took nearly a year to complete.

In its new location in the Rosenwald Museum it will be seen by millions of visitors annually.

* * *

The intensive campaign to stop the spread of syphilis now being waged throughout the country makes it imperative that only those serologic tests of proved efficiency be made available to private physicians and health officers. Diagnosis of syphilis must be prompt and accurate. The serologic blood test, becoming positive within two or three weeks after the onset of primary syphilis and remaining positive in the vast majority of untreated patients throughout the entire course of the disease, is the most important evidence of the existence of syphilis.

The American Society of Clinical Pathologists in cooperation with the U. S. Public Health Service realized the need for reliable serodiagnostic tests several years ago. The work of the Committee on Evaluation of Serodiagnostic Tests for Syphilis is sufficiently well known to require no comment. It is the opinion of this Committee that its studies of the efficiency of the performance of serologic tests have progressed to a point where material gains would be made by a thorough discussion on common ground in which all those interested in the control of syphilis through laboratory methods may participate.

Plans are being developed for an assembly of laboratory workers from the entire country. All such workers, both from private, hospital and public health laboratories, as well as physicians and health officers interested in the control of syphilis, are invited to attend.

The proposed meeting, under the auspices of the Committee on Evaluation of Serodiagnostic Tests for Syphilis, with Surgeon General Thomas Parran, Chairman, is scheduled for October 21st and 22nd, 1938, at Hot Springs National Park, Arkansas.

The aims and purposes of the assembly will be to consider means and methods to improve and to make more generally available the serologic tests, which are so important in syphilis control work. Tentative arrangements call for the presentation of the program in four sections.

The first section will consider the need

for adherence to conventional technic in the routine performance of reliable serodiagnostic tests. This subject will be considered in papers by Doctors Harry Eagle, William A. Hinton, Reuben Kahn, Benjamin Kline, and John H. Kolmer, with special reference to the tests which each of these workers has described.

Need for training of laboratory personnel will be the subject of the second section. The qualifications and training for both laboratory directors and technicians will be presented in separate papers.

The third section will discuss the prosecution of the studies to evaluate the performance of serologic tests within the states. The efficiency of branch state laboratories and of municipal, hospital and private laboratories cannot be studied on a national basis. The subject is much too large. Should this be made a function of the state or large municipal department of health? Actual experience with such studies in the states of Maryland and New Jersey and in the city of Cleveland will be described.

The fourth section will consider the desirability of licensing or approving, for the performance of serodiagnostic tests for syphilis, laboratories within the states by the respective state departments of health. This discussion will be conducted from the standpoint of the private laboratory director by Doctor Frederick H. Lamb of Davenport, Iowa. The health officer's side will be presented by Doctor A. Wadsworth, State Department of Health, Albany, New York.

A separate committee will draft recommendations for each of the four sections for presentation to the assembly. The respective chairmen of these four section meetings will be Doctors Walter M. Simpson, Dayton, Ohio, Arthur H. Sanford, Rochester, Minnesota, F. E. Seneor, Chicago, Illinois, and H. H. Hazen, Washington, D. C. General discussion will follow the presentation of each set of recommendations.

An additional feature of the meeting will be an actual demonstration of the performance of the Eagle, Hinton, Kahn, Kline, and Kolmer tests by the originators of these procedures.

It is to be hoped that the attendance at this assembly will be large. Out of the meeting should come a crystallization of opinion with regard to the important problems which will be considered. Those in-

terested in obtaining further information should write to the Surgeon General, U. S. Public Health Service, Washington, D. C.

* * *

The Twenty-third Annual Session of the American College of Physicians will be held in New Orleans, with general headquarters at the Municipal Auditorium, March 27-31, 1939.

Dr. William J. Kerr of San Francisco is President of the College and will have charge of the program of general scientific sessions. Dr. John H. Musser of New Orleans has been appointed General Chairman of the Session, and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools and of the program of round table discussions to be conducted at the headquarters.

* * *

The Florida Section of the Southeastern Surgical Congress will hold its fifth annual clinical meeting at the Florida State Hospital at Chattahoochee, Florida, Saturday, August 27th.

Inasmuch as the location of this hospital is within one mile of the Georgia State line, and only about thirty-five or forty miles from the Alabama State line, the hospital authorities and the Florida Fellows of the Congress are extending a hearty invitation to all members of the Georgia and Alabama Medical Associations to attend this meeting.

The meeting will be so timed that doctors living within a radius of seventy-five or one hundred miles of Chattahoochee can attend the entire meeting and still get back home before dark.

There are no set papers at these meetings, but clinical cases are presented and discussed by invited speakers, among whom will be Dr. J. S. McLester of Birmingham, and Dr. F. W. Wilkerson, Montgomery.

Further details and exact data of this meeting will be given later by Dr. J. S. Turberville, Century, Florida, Chairman of the Clinic Committee.

1939 MEETING

M. A. S. A.

MONTGOMERY

Book Abstracts and Reviews

The Practice Of Urology. By Leon Herman, B. S., M. D., Professor of Urology, University of Pennsylvania, Graduate School of Medicine; Urologist to The Pennsylvania Hospital and to the Bryn Mawr Hospital; Consulting Urologist to the Methodist Episcopal and Burlington County (New Jersey) Hospitals. 923 pages with 534 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$10.00 net.

Doctor Herman set out to prepare for the general practitioner and surgeon a practical treatise on urology. He has been most successful in this effort. Into nine hundred pages, he has packed a tremendous volume of material that would require far more space if the author were not gifted with a sense of economy in the use of words. The book, though covering the entire field of medical and surgical urology, is concise and actually brief. Because of the clearness with which he presents his material, the logical manner in which his subjects have been arranged, and the aid given the reader by a large number of x-ray pictures and the excellent drawings by William B. McNutt, the author should feel that his book will attain a prominent place on the shelves of succeeding generations of physicians.

The chapters deal with diagnosis, instruments, diseases of the kidney, ureter, bladder, urethra, penis, scrotum, testicles, cords, vesicles and prostate, urolithiasis and genital tuberculosis. Much space is devoted to diagnosis. No attempt is made to present details of operative procedures.

As a text-book, it is outstanding. For a reference work, it is quite satisfactory, its chief advantage being the ease with which information can be found.

C. K. W.

The Heart In Pregnancy. By Julius Jensen, Ph. D., (In Medicine) University of Minnesota, M. R. C. S. (England), L. R. C. P. (London). Assistant Professor of Clinical Medicine, Washington University School of Medicine; Assistant Physician to Barnes Hospital; Physician to St. Louis Maternity Hospital and St. Louis City Hospital. 368 pages, illustrated. C. V. Mosby Company, St. Louis, Mo. 1938. Cloth. Price \$5.50 net.

This book presents an analysis of the relationship of the diseased heart to pregnancy.

In Part I, the effect of pregnancy on the normal heart is discussed—the increase in cardiac output, the adjustment of the heart to its additional burden and the end result of these adjustments made necessary by normal pregnancy. Part II deals with abnormalities of cardiac rhythm during pregnancy and particularly with paroxysmal tachycardia. In Part III, the relationship between rheumatic heart disease and pregnancy is discussed.

Special chapters deal with the incidence of heart disease among pregnant women, the diagnosis of heart disease in pregnancy, and the causes of cardiac death in pregnant women. There are practical discussions of the management of the pregnant woman with heart disease, the special obstetric care needed by her during delivery, or the indications for termination of pregnancy should her life be threatened before term. The types of anesthesia best suited to parturient women with heart disease and the indications for caesarean section are discussed. The

rarer types of heart disease are not neglected, a section being devoted to bacterial endocarditis, syphilitic heart disease and kyphoscoliotic heart disease.

A. E. T.

Hookworm Disease. By Asa C. Chandler, M. Sc., Ph. D., Professor of Biology, Rice Institute, Houston, Texas; Recently Officer-in-Charge, Hookworm Research Laboratory, School of Tropical Medicine and Hygiene, Calcutta, India. The Macmillan Company, New York. 1929. 494 pages. 33 figures. Cloth. \$4.00.

"Hookworm infestation is never spectacular. It attacks the strong as well as the weak."

Hookworm Disease is a well compiled book. The reader is first introduced to the history of the disease and the discoveries that have been made. Then the geographic distribution is given, followed by a chapter on the anatomy and distribution of hookworms. The life cycle and mode of infection are discussed, followed by a discussion of the epidemiology, pathology, diagnosis, treatment, prevention and control.

The appendix considers technical methods as applied to diagnosis, staining, egg counting, etc.

To the physician and health officer this book is recommended as a very useful reference work on hookworm disease and infestation.

W. H. Y. S.

New and Nonofficial Remedies, 1938. Containing descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1938. Cloth. Price, \$1.50. Pp. 592, LXVI. Chicago: American Medical Association, 1938.

In this book the Council on Pharmacy and Chemistry lists and describes the medicinal preparations that it has found acceptable for general use by the medical profession. A glance at the list of the Council members and the long list of consultants appearing in the first part of the book gives ample warrant for the authority of the Council's selections.

New substances described in this volume are Sulfanilamide and Protamine Zinc Insulin, with the accepted brands. The proved value of these new additions to the physician's armamentarium bids fair to make the past year a milestone in therapeutic progress. The Council is to be congratulated on the promptness with which it evaluated these drugs and established standards for their adequate control. From the first the Council warned against using Sulfanilamide in untried combinations. The sad tragedy of the deaths from the rashly introduced Elixir of Sulfanilamide-Massengill starkly emphasizes the value of such a body as the Council to the medical profession and the pharmaceutical manufacturers as well as to the public. Of course this potential value cannot become effective as long as these concerned refuse to follow the Council in the use of new remedies.

Other noteworthy new drugs which appear in New and Nonofficial Remedies 1938 are Avertin with Amylene Hydrate, Vinethene, Pontocaine Hydrochloride, basal, general and local anesthetics respectively; Novatropine and Syntropan, synthetic mydriatics.

Physicians who wish to know why a given proprietary is not described in New and Non-official Remedies will find the "Bibliographical Index to Proprietary and Unofficial Articles Not Included in N. N. R." of much value. In this section (in the back of the book) are given references to published articles dealing with preparations that have not been accepted. These include references to the Reports of the Council, to Reports of the A. M. A. Chemical Laboratory and to articles that have appeared in The Journal.

A Text-Book of Clinical Pathology. Edited by Roy R. Kracke, Emory University. With the Assistance of Doctors Briggs, Diggs, Herrmann, Johns, Johnson, McBurney, Meleney, Miller, Parker, Sydenstricker and Wahlin. William Wood & Company, publishers, Baltimore, Md. 567 pages. Illustrated. 1938. Cloth. Price \$6.00 net.

The late Foster Johns of Tulane University had planned to edit a comprehensive treatise on clinical pathology, enlisting the cooperation of teachers in several medical schools. The task was not completed at the time of his death and Doctor Kracke has carried the work to completion. Each phase of clinical pathology is presented by a teacher who is an authority in his particular field.

No attempt has been made to describe various methods of performing certain tests but a single approved method is presented in detail. It is not technique but interpretation of results that is particularly stressed. For this reason the book should appeal as much to those who use a laboratory as to those whose task it is to run laboratories. It is therefore a practical book for students, interns, general practitioners and internists.

Of unusual interest are the chapters on laboratory tests in diagnosis and management of hemorrhagic diseases and those dealing with diseases of red and white cells, sedimentation rate and hepatic functional tests. These chapters are not outstanding only because all the others are equally excellent.

C. K. W.

Diseases Peculiar To Civilized Man: Clinical Management And Surgical Treatment. By George Crile, M. D. 417 pages. 41 figures. 99 case histories. New York: The Macmillan Company. 1934. Cloth. \$5.00.

Organisms are either evolving or stationary, or they advance according to the law of orthogenesis. In the case of man the law of orthogenesis is applied to the controllers of the energy-transforming system; namely, the brain, the thyroid and the adrenal-sympathetic system. Orthogenesis means that when a species begins to vary in any direction it cannot reverse itself and the species continues to vary in that direction even if it is tending toward destruction. It is possible that to the brain and thyroid gland of man is being applied the law of orthogenesis. It is possible then that man may be destroyed by these evolving organs as the dinosaurs were destroyed by gigantism and Irish Elk by the enormous weight and size of the antlers.

The human organism has two fractions: (1) a museum of man's antiquity; and (2) the evolu-

tion of the frontal lobe and thyroid. The frontal lobe restrains or inhibits the wild man in us.

The adrenals furnish the kinetic drive of the individual. Under the influence of fear most, if not all, organs are divided into two classes: 1. those stimulated; and 2. those inhibited. Since man has become civilized, he doesn't need sudden outburst of energy for fight or flight, hence the adrenals are smaller. But energy must be at a constant level. Any emotional crisis stimulates the sympathetic centers, which in turn stimulate the adrenals and to a less degree the thyroid. The stimulation of these glands has the property of stimulating or reinforcing the actions of the sympathetic nervous system. Since the effects of adrenalin are brief and transitory, and quickly respond to the stimuli resulting from any emergency, it is to the adrenals the sympathetic must turn for support in dealing with an emergency.

The thalamus is the seat of correlation of emotional reactions and from the thalamus impulses pass to the organs of the body via the sympathetic system. Sensations arising in the viscera as a result of emotional states may play a strong part in augmenting the thalamic impulses. Frequent occurrence of strong emotions may result in sympathetic instability in the nervous and emotional balance of the patient, resulting in a vicious circle of emotional stimulation. In other words, the thalamus and sympathetic system are hypersensitive.

The diseases that result from this hypersensitive emotional state are primary neurocirculatory asthenia, peptic ulcer, certain cases of diabetes and hyperthyroidism associated with hyperplasia.

Denervating the adrenals seems to be the operation of choice and one which gives excellent results as judged from the case histories and statistical tables.

Diseases Peculiar to Civilized Man is a remarkable book. Its presentation is such that it would be instructive and informative to any physician regardless of his specialty.

W. H. Y. S.

Annual Reprint Of The Reports Of The Council On Pharmacy And Chemistry of the American Medical Association for 1937, with the Comments That Have Appeared in The Journal. Cloth. Price, \$1.00. Pp. 201. Chicago: American Medical Association.

This book is a great deal more than a mere record of the negative actions of the Council on Pharmacy and Chemistry. It gives in full the reasons for the Council's rejection of various preparations, but it also records results of the Council's investigations of new medicinal agents not yet out of the experimental stage, and frequently contains reports on general questions concerned with the advance of rational drug therapy. All three categories of reports are represented in the present volume.

This issue of the Reports is remarkable for the series of valuable status and preliminary reports published by the Council in the past year. These include the reports on Avertin with Amylene Hydrate (now accepted for New and Nonofficial Remedies), Benzedrine Sulfate (the

active constituent of the notorious "pep" pills but a promising drug when its limitations are recognized), Catgut Sutures (a survey of the sterility of the market supply), Evipal Soluble (a comprehensive review of the evidence for the usefulness and limitations of the drug), Histidine Hydrochloride (a study of the usefulness of the drug in peptic ulcer, to be considered in connection with the report rejecting Larostidin, a proprietary brand, for unwarranted and exaggerated claims), Mandelic Acid (an authoritative statement of the limitations of this drug which the Council has now accepted), and Vinethene (a careful study of the evidence for the drug, which the Council has accepted for one year as an anesthetic to be used in short procedures).

Other notable reports of outright rejection of products are those on Causalin (Causyth), an unsafe and dangerous preparation proposed for use in arthritis; Glutamic Acid Hydrochloride-Calco, proposed as a conveyor of hydrochloric acid, with unsubstantiated claims of clinical effectiveness; Larodon "Roche," proposed as a substitute for other well established analgesic and antipyretic drugs and marketed with exaggerated and unwarranted claims.

Two reports on Sulfanilamide appear, a nomenclature and status report together with reprints of The Journal editorials giving the warnings which, if obeyed, would have avoided the series of deaths which resulted from the marketing of the ill-fated Elixir of Sulfanilamide-Masengill.

At the end of this volume appears an eulogy of George Henry Simmons whose death deprived the Council on Pharmacy and Chemistry of its founder and American medicine of a worthy and faithful servant.

A Manual Of Practical Tropical Sanitation. By J. Bal-four Kirk. M. B., D. P. H., Director of the Medical and Health Department, Mauritius. William Wood & Company, New York, 300 pp., \$3.00.

According to the author's foreword, this manual has been prepared for students in schools of public health and sanitation, and for estate and mine managers and those in charge of labor in the tropics. (Mauritius lies in the Indian Ocean east of Madagascar.)

After two chapters of elementary biology and human physiology, the author discusses the communicable diseases and their modes of transmission. With this preparation of the reader, Disinfection, Housing, Foods, Milk, Water, Sewage Disposal, Refuse Disposal, Laundries, Schools, and Village Sanitation are discussed.

Although this work pertains primarily to sanitation measures in tropical climates, and is written from the point of view of a British medical officer, it includes a number of suggestions well worthy of adoption in temperate climates, and under our form of government. For instance, the author recommends annual licensure of all food establishments, offers practical suggestions for rat-proofing, describes several practical methods of dairy herd manure disposal, etc.

This book constitutes an interesting exposition of conditions peculiar to tropical climates, com-

plicated by native and mixed populations. It is well written, easily read, and is a worthy addition to the reference works of any public health library.

C. A. A.

Chemistry Of Food And Nutrition. By Henry C. Sherman, Ph. D., Sc. D., Mitchell Professor of Chemistry, Columbia University. The Macmillan Company, New York. 5th Edition, completely rewritten. 1938. Price \$3.25.

Since the fourth edition of this book, which was published in 1932, there has been vigorous research concerning the science of nutrition. The author has, therefore, completely rewritten the book in order to incorporate the most recent findings. Although it is written primarily for the use of college classes, for anyone who is concerned with nutrition and its relation to human welfare this book is indispensable. It is sanely written and can be depended upon as scientifically authentic insofar as current knowledge concerning the subject is available.

The book deals with exactly what its title indicates, "The Chemistry of Food and Nutrition." The author presents many of the most recent findings in the field of nutrition and attempts to present the significance of them without giving undue emphasis to any particular development. At the end of each chapter is a bountiful list of references which is helpful in case further study is desired. In the latter part of the book are appendices which give tables including the calorific values of materials when burned in the oxy-calorimeter, composition of foods, foods as sources of vitamins A, B, C, and G, and simple statistical treatment of the data of nutrition investigations.

M. M. W.

Yearbook Of Pediatrics, 1937. By Isaac A. Abt, D. Sc., M. D., Professor of Pediatrics, Northwestern University Medical School; Attending Physician, Passavant Hospital; Consulting Physician, Children's Memorial Hospital and St. Lukes Hospital, Chicago. The Year Book Publishers, 304 South Dearborn Street, Chicago, Ill. Price \$2.50, postpaid.

This volume, one of the ten Practical Medicine Year Books which now are in their thirty-seventh year, is not a text-book in pediatrics but rather a resume' of all the worth-while work that has been done during the past year by outstanding men capable of evaluating the virtues and faults of a tremendously large amount of literature dumped upon the medical market. The book is intended by Dr. Abt to supplement a good text-book of pediatrics and current medical journals.

For pediatricians and practicing physicians particularly interested in pediatrics, reading of the yearbook offers knowledge which cannot be secured by taking special refresher courses, in that so many diversified opinions and experiences on all important phases of pediatrics are presented by authorities who are best informed.

Deserving of special comment are the editor's notes following each article presented; they tend to offset any ill effects the contributing author's radical ideas may have on the reader.

J. J. R.

Nutritive Aspects Of Canned Foods. American Can Company, 230 Park Avenue, New York.

This short, but meaty, book includes the answers to numerous questions concerning the nutritive values, and the "ptomaine," bacterial, and metallic poisoning possibilities of canned foods so frequently encountered, a description of the process of can manufacture, an appendix of valuable tables of dietary data, and a bibliography of 73 books and articles on the public health aspect and nutritive values of canned foods.

Chapter titles include: Preservation of Foods, Human Dietary Requirements, Nutritional Aspects of Canned Foods (in which mineral and vitamin conservation is discussed), Public Health Consideration (in which popular fears of "ptomaines," chemical poisoning, etc., are allayed), Can Manufacture, and Canning Procedure.

The book is printed in large, readable type, and is illustrated with photographs and sketches. Copies may be obtained upon written request.

C. A. A.

Teaching Procedures in Health Education. By Howard L. Conrad, Ed. M., Supervisor of Physical and Health Education, Philadelphia Public Schools; Lecturer in Hygiene, Temple University; and Joseph F. Meister, Ed. M., Instructor, Department of Physical and Health Education, Temple University; Lecturer in Anatomy and Physiology, Women's Homeopathic Hospital, Philadelphia. 160 pages. Philadelphia and London: W. B. Saunders Company, 1938. Cloth. Price \$1.75 net.

The authors of the little book, "Teaching Procedures in Health Education," have presented an abundance of helpful material for the person who is to teach health, particularly to those in the secondary grades of the schools. The essence of the volume lies in the benefits the student-teacher will derive from a study of the many procedures that are now being used successfully to teach health to high school pupils.

Emphasis is correctly placed upon the superiority of health practice to health knowledge. Objectives are definitely and adequately stated and they appear to be practical and attainable. No attempt is made to give teaching material. The authors content themselves with merely outlining procedures and giving ample references for collateral reading.

The text is arranged in units rather than chapters. Definite information is given regarding procedures for teaching the subject matter taken up in each unit. The chief value of the book is found in the choice of assignments, problems for discussion and references given at the close of each unit.

The unit dealing with "Learning by Doing" techniques is very good. The authors assume the attitude that in many lessons that are inflexibly planned there is too much teacher control and not enough pupil freedom. Emphasis is placed upon the importance of action on the part of pupils. The value of teacher planned assignments is emphasized but the fact is brought out that the desirable outcomes are more likely to be obtained if the pupils themselves share in suggesting and planning the work.

B. F. A.

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THE INSURANCE TRIANGLE APPLICANT, EXAMINER, COMPANY

By
B. F. BYRD, M. D.
Nashville, Tenn.

There are two organizations composed of medical men in the insurance business in the United States and Canada. (1) The Medical Section of the American Life Convention, which has been in existence about 30 years, has an annual meeting, usually in May or June. (2) The other is the Association of Life Insurance Medical Directors that has been meeting annually for about 50 years—in the latter part of October and always in or near New York City.

There are about 180 thousand physicians registered in the United States and Canada and it is estimated that 12 to 15 thousand of these are not in general practice.

The Russell Sage Foundation report indicates that the average net income of the general practitioner is \$3,900.00; the full-time specialist \$10,000.00, and the average for all physicians is about \$4,500.00. A further estimate indicates that the total amount paid doctors for medical service in 1936 was about \$800,000,000.00. In a paper presented at a meeting of the Medical Section of the American Life Convention last year, Dr. Cragin of the Aetna Life Insurance Company reported that, in 1936, insurance companies paid to doctors in the United States about \$100,000,000.00. It is thus shown that about 12% of the income of the medical profession is from insurance companies.

In view of these estimates and facts we feel that the profession should be, and is, interested in what goes on behind the scenes in the medical department of an insurance company.

There are some erroneous impressions

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that I would like to mention at this time.

(1) That companies may resist or try to avoid payment of just claims. To me this is most absurd. Why, or for what purpose, do companies exist? There can be but one answer, and that is *to pay claims*. I believe that all companies give claims the right of way over all other business, and most of them pay within 24 hours after properly completed claim is received at the home office. (2) That companies keep a so-called "black list" or rejected list, and that when once declined it is difficult or impossible to get insurance. If an applicant is honest and gives the facts on his application, previous unfavorable action by the same or any other company will have no bearing whatever on his insurability. One medical director may ask another if he found anything unfavorable about a risk, but it is not considered ethical to even ask if the risk was accepted or declined. (3) That companies reap large profits from lapsed policies. It takes several years for a company to get back the actual expense incurred in getting the business issued. After the second or third year, most contracts have some value available to the purchaser, and can be used only to offset indebtedness against the contract, taken in cash, pay other premium or purchase paid up insurance. If every policy issued would remain in force until maturity, by death or otherwise, premiums could be materially reduced.

Soon after the beginning of each year, we see in various news journals annual statements of insurance companies showing millions or even billions in assets, and much larger amounts of insurance in force. These figures may create the wrong impression. Assets of a company are composed of (1) capital stock, (2) surplus and (3) legal reserve as required by law. Capital stock, of course, speaks for itself. Surplus is an accumulation of earnings kept for the protection of policy holders, and to meet any emergency that may arise. Legal reserve

constitutes the principal part of the assets of any company. This is simply premiums collected and part of the investment earnings set apart to meet the claim when the contract matures, and is usually represented by securities deposited with the state in which the company is domiciled. We might say that the legal reserve is a trust fund deposited by the policy holders in the form of premiums, and held by the company. A definite part of this legal reserve must go back into the reserve fund each year.

Insurance companies have only three possible sources of profit: (1) Premium loading. That is, when premiums are figured, a small extra may be added for the company. However, this has been almost if not entirely eliminated by competition. (2) Excess interest earnings. Three or $3\frac{1}{2}\%$ of earnings from the investment of "trust funds" must go back into the reserve, and any earnings in excess of this go to surplus. It is thus seen that at present there can hardly be any excess interest earnings. (3) Mortality savings. With premium loading and excess interest earnings practically eliminated, a company must have some mortality savings or no profit. It can thus be seen that the medical and underwriting departments have quite a bit of responsibility at the present time. It has been stated that premium rates should be reduced since the average span of life has been increased some 10-15 years. This improved mortality is in infants and early life. Men of 50 live no longer, if as long, than they did 20 years ago. The man of 50 today is no more likely to reach the century mark than was the case in the last century. The ravages of the degenerative conditions continue unabated.

What is life insurance anyway, and why is it bought? The term life insurance to me seems to be a misnomer. Insurance is purchased for one of four purposes: (1) To provide an income for the dependents of the purchaser in the event of his death. That is, in the event of the purchaser's death, to insure his dependents of an income similar to what they would have enjoyed had he lived out his expectancy or a normal life. It is thus seen that what we attempt to insure is a man's anticipated earnings. The amount of insurance to which a man is entitled is generally computed somewhat as follows:

Under age 30:

12 times his annual earned income

30-35:

10 times his annual earned income

35-40:

8 times his annual earned income

40-50:

6 times his annual earned income

50-60:

3 times his annual earned income

Business insurance:

5 times his annual salary

A man, 30 years of age, with an annual income of \$5,000.00, with a life expectancy of 35 years, has an anticipated income of \$175,000.00. A man of 60, with an annual income of \$5,000.00 and a life expectancy of 14 years, would have an anticipated life income of only \$70,000.00. When the amount applied for is much in excess of such calculations, it becomes speculative and oftentimes there is an ulterior motive behind the application. (2) Investment. Personally, I believe that life insurance purchased solely for investment is of doubtful value from the standpoint of the applicant and the company as well. (3) For protection of any estate against indebtedness, inheritance taxes, etc. Such purchases are perhaps all right, and very good deals for both the company and the purchaser. (4) Speculation. Giving this only a passing thought, it would appear that it would not often be encountered, yet this is one of the things we must check for in every application.

The application blank as completed by the agent and by the examiner, together with the policy issued, constitute the entire contract. Practically all medical examination blanks are now reduced to a minimum number of questions. Every question should be answered by the examiner, and answers recorded just as given by the applicant. Appropriate explanations should be given for indefinite answers. Some questions may seem to be irrelevant, but they are included for a definite purpose, either to aid in the evaluation of the risk or to protect the company in event of any misrepresentations. The home office underwriter must get a pen picture of the applicant as given by the agent and the examiner, take his personal history, physical condition, habits, occupation, and other available data and figure the life expectancy of a group of such individuals. If material facts are missing, an injustice may be done to either, or both, the

applicant and the company, and even prove embarrassing to the examiner as well. A policy becomes incontestable for any cause whatever, except fraud, after a period of two years. (I would like to see someone convince a jury that fraud has been perpetrated in securing a life insurance contract.) It therefore can be seen that it is imperative that a company have all facts pertaining to a risk before a contract is issued. It has been said that all men are liars. In applying for insurance we might say that all men are salesmen. A patient attempts to sell the doctor on the idea he has that something is wrong. Slight eructations after meals are severe indigestion, a little loss of weight seems serious, a little soreness about a joint is rheumatism, but, when applying for insurance, a man has his expectancy to sell the doctor and the company. Slight indigestion may mean a peptic ulcer, chronic appendix, gallbladder disease and what not, and may require careful questioning by the examiner to bring out the real significance of such symptoms. It is easy enough to evaluate a risk with a history of tuberculosis, nephritis, syphilis, typhoid, pneumonia, diabetes, Bright's disease, etc. The medical director's headaches come from a history of slight indigestion, slight headaches, gas on the stomach, a little kidney trouble, a mild cough, nervous breakdown, etc. Usually such histories can be cleared up by further questioning as to date, duration, nature of the treatment, recurrences, etc. This is simply the human element in a business transaction. It is as when a man wishes to sell a farm; it is all very good, some spots better than others, of course. He simply brings out the good points, and the deficiencies must be looked for by the prospective purchaser. Most men under such conditions do not mean to be dishonest, but really expect to live a long time. On his 41st birthday Bruce Barton wrote an article entitled "This One Thing I Have Learned," and the substance of what he had learned was that some day he would die, and his friends would be his pallbearers just as he had been pallbearer at the funerals of others. We all must die, this is true, but still we expect the other fellow to die first. Our time will come, of course, but that is far off in the distant hidden future. This is the honest belief a man has that he must convince the company is a fact.

When an examination is completed the applicant will usually ask about the examiner's findings. A diplomatic answer to such perfectly natural questions may save the doctor, the agent and the company considerable embarrassment. The best answer that I have found is, "You look pretty good to me, but you never can tell what a life insurance company will do." This, I think, is a perfectly reasonable answer for a large part of the risks that are declined are so declined for reasons other than physical. Time will not permit an explanation of all of these, but I might enumerate a few of the other features considered in underwriting: habits, use of alcoholics or drugs, reputation in the community, relation to associates, particularly of the opposite sex; integrity, financial worth, earned income, occupation, race, beneficiary, amount of insurance carried and amount applied for, and even the place of birth. There is quite a difference in the practice of medicine and the examination of an applicant for insurance. In the practice of medicine we are interested in the individual, what is best for the particular man, how he will react to treatment, etc. A slightly elevated blood pressure, a little albumen, slightly rapid pulse and an elevated temperature are only symptoms, and perhaps to be expected in the patient. These things are of little significance, and perhaps may not be mentioned to the patient. The doctor is optimistic and, of course, encourages the patient that he is going to be all right. This is a part of the doctor's life and he gets accustomed to it. An applicant for insurance is supposedly a well man and slight variations may mean much to the company. For life insurance purposes, a systolic blood pressure of over 140 is abnormal for a man at any age, and the mortality rises rather rapidly when the pressure rises above this figure. A history of lues makes a risk substandard even though properly treated. The mortality among a group of such individuals is somewhat higher than among a group of individuals not so infected. A pulse of 72 is considered normal. However, that figure is only the average of a large group under specific conditions. For life insurance purposes the normal range is from 60-90 and the mortality increases as we get away from these limits. What a normal build is is doubtful, but there are

limits within which we may expect a near normal mortality. The further we get away from these limits, the greater the mortality. After we pass 6 ft. 4 in. in height the mortality begins to rise regardless of the fact that the other measurements may be just as good proportionately as any so-called normal individual. Recent investigations show that few, if any, of the so-called giants reach middle life. The mortality of the under average build is much better, and many of the small individuals or midgets have lived past age 60. In insurance we are interested in groups, and the medical director's task is to place risks in a group and assign a rating adequate for the expected mortality. There is nothing more certain than death ultimately. However there is nothing more indefinite as to when one will die. After a risk is approved, if no misrepresentations have been made, so far as paying the claim is concerned, we had just as soon pay it the next day as the next century. That some are going to die is certain, which ones nobody knows, and it makes no difference to the company.

CHORIONEPITHELIOMA*

By

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The infrequency of chorionepithelioma and the rapidly fatal termination of this disease as a complication of pregnancy justifies a short review of the subject. Chorionepithelioma has long been a subject of interest; it was described as early as 1867 by Volkmann, who believed that these malignant tumors arose from the decidual cells. This view was maintained by Saenger also who in 1888 employed the term "deciduoma malignum." In 1905 Marchand changed the then existing concept of Saenger, which inferred a purely maternal origin of this disease, and recognized two groups, the atypical and the typical. In the atypical group he placed those which showed an extensive infiltration of syncytial cells, recognizing the apparent harmlessness of this condition. In the typical chorionepithelioma group, which is the highly malignant type, he noted many large

multinucleated syncytial cells besides Langhans' cells. Eving in 1910 did much to clarify this situation and after his study he proposed the classification between destructive moles, the typical chorionepithelioma and the atypical degenerating tumor.

Because of the confusion in classification and the inclusion of atypical chorionepithelioma in the general group of chorionepithelioma, the incidence varies from less than 1% (Novak) to 31.4% (Findley). In one series 15% of hydatidiform moles were followed by chorionepithelioma.

The diagnosis of typical chorionepithelioma depends, first, on a positive Friedman test four to six weeks after the expulsion of a hydatidiform mole, abortion or normal labor with irregular postpartum bleeding, and the demonstration by histologic sections of curettings of the presence of typical pathologic findings. A positive Friedman test under the above conditions necessitates a diagnostic curettage before a diagnosis of chorionepithelioma can be made.

The treatment of choice is complete hysterectomy followed by extensive postoperative radiation. The Friedman test should become negative within four to seven days postoperative, if the neoplasm was confined to the parts removed at operation. Frequent Friedman tests should be performed inasmuch as it becomes positive, when metastases or recurrences have occurred, long before they can be detected by any other means. At this point it might be well to review the technique of the Friedman test as commonly employed. I am purposely omitting the technique of the Ascheim-Zondeck test, which is the original one for detecting the presence of the gonadotrophic substances in the urine, since it necessitates keeping on hand a large number of mice of a known age and the repeated injections of graduated amounts of urine, followed by a microscopic study of the ovaries. The Friedman and the modified Friedman tests are far simpler and more applicable for use by the general practitioner.

The technique is as follows: The patient is instructed to take a simple cleansing douche on arising and to save one ounce of the first urine passed, this to be delivered in a sterile container and to be kept in a cool place until delivery. Ten cubic centimeters of this urine, previously filtered, are

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injected into the marginal ear vein of a three months' old virgin rabbit. Forty-eight hours later the rabbit is killed and the ovaries examined. A positive test is shown by the presence of hemorrhagic follicles in both ovaries, a negative test by the absence of these. The test as originally advocated by Friedman may be employed in which 4 cc. of urine are injected into the rabbit three times daily for two days, with autopsy forty-eight hours after the first injection.

During pregnancy the occurrence of irregular bleeding, or the rapid enlargement of the uterus, far beyond the expected size for the time of the pregnancy, persistent bleeding following abortion, or normal delivery should point to the possibility of the presence of some pathologic process either hydatidiform mole or chorionepithelioma. In these cases hydatidiform mole or chorionepithelioma may be differentiated from normal pregnancy by the Friedman test due to the fact that the concentration of the anterior pituitary hormone in the patients is much higher than in a normal pregnancy.

The following case histories illustrate the subdivisions of this group:

CASE REPORTS

Case 1. The first case, typically illustrating chorionepithelioma, is taken from the files of City Hospital, from the service of Dr. G. G. Oswalt.

Mrs. G., age 29, para 2, was admitted to City Hospital about Jan. 5, 1935 on account of recurrent uterine bleeding following the passage of a mole some weeks before. The bleeding subsided and she was discharged to be readmitted in just a few days because of recurrence of the uterine bleeding. She stated that during November and December there had been intermittent bleeding with the passage of many clots, with chills and fever. She was given two blood transfusions because of the extreme anemia. On Jan. 29th, a Friedman test was done and reported positive on Jan. 31st. A third transfusion was done and the patient curetted. Examination of this showed a marked proliferation of syncytium with the presence of Langhans' cells. Diagnosis of chorionepithelioma was made and immediate panhysterectomy advised which was done on Feb. 13th. The gross tumor removed showed the presence of a hemorrhagic neoplasm which was located in the fundus of the uterus apparently filling the entire cavity. Microscopically the tumor revealed embryonic chorionic villi covered with syncytial cells containing many multinucleated cells, with the occurrence of mitotic figures. The Langhans' cells were hyperplastic and also showed mitosis. Deep within the musculature of the uterus a purplish mass was found which showed

the same characteristics as the original curettings. One week postoperative Friedman test was negative and x-ray examination of the chest was negative for metastases. On March 15 and May 15, Friedman tests were negative, as was x-ray examination for metastases on May 24th.

Case 2. Mrs. S., para 0, age 19, gave history of abortion two months ago, followed by bleeding for thirty days. She consulted me because of persistent vaginal discharge, at times showing streaks of blood. At examination a soft patulous external os with mucoid discharge was found. The uterus was apparently normal in size and acutely retroflexed. A dilatation and diagnostic curettage were advised. At operation, March 28, 1938, very little endometrial tissue was recovered. Report of histologic section is as follows:

Histopathologic examination of uterine curetting shows the presence of many degenerating decidual cells; the nuclei are indistinct and the cytoplasm is vacuolated. In the stroma are many lymphocytes and a rare plasma cell. There is much fibrin present and scattered throughout are giant syncytial cells. Groups of Langhans' cells are absent in the sections studied.

Diagnosis: Syncytioma—or a synonymous term, a typical chorioma of Marchand.

On April 11, 1938, two weeks postoperative, the Friedman test was negative.

Case 3. Mrs. E., age 23, para 1, first consulted me Aug. 2, 1934 because of possible pregnancy. Last regular menstruation began April 14, 1934. Uterus was about the size of a two months' pregnancy. Gave history of irregular bleeding for past two months. Returned Sept. 24th and on examination uterus was not as large as expected for time of suspected pregnancy. Friedman test on this date was positive but patient said she had not felt fetal movements. Examination Nov. 15th showed very little if any more enlargement of uterus and Friedman tests on Nov. 19th and 22nd were both negative. Painful uterine contractions with bloody discharge began on Nov. 24th, and on Nov. 26th she delivered a grape-like mass which was macerated and showed degenerative changes. Apparently it had separated some time previous to delivery, which probably explains the negative Friedman test.

Histopathologic section of the mass showed hydropic villi with pronounced epithelial proliferation. A diagnosis of hydatidiform mole was given. Seven and twenty-one days, respectively, following delivery, Friedman tests remained negative. Six months later the Friedman test was still negative.

SUMMARY

The history, incidence and symptoms of the disease, and the value of the Friedman test in the diagnosis of chorionepithelioma are reviewed. Attention is called again to the necessity of differentiating between atypical and typical chorionepithelioma. In the former, conservative treatment, followed by repeated Friedman tests, is indicated, while in the latter very radical treatment is

necessary because of the extremely malignant character of chorionepithelioma.

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ATABRINE AS A MALARIAL PROPHYLACTIC AGENT

AN EXPERIMENT WITH THE DRUG IN A REGION IN
CENTRAL ALABAMA

By
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Numerous reports of the efficiency of atabrine in the prophylaxis of malaria have appeared in the literature. Most of the experiments have been carried out in tropical or subtropical countries where the season of transmission is relatively long. The present paper is a report of the results with this drug obtained during the summer of 1937 in a rural area of Alabama.

Macon County, Alabama, situated in the central portion of the state, has a population consisting of Negroes predominantly whose work is almost entirely agricultural. Malaria has been endemic for years in certain parts of this county and is a serious economic problem. Extensive swamps that cannot be drained provide ample breeding places for *Anopheles quadrimaculatus*, the principal malaria vector found in this region.

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Part of the northwest corner of the county, with an area of about 60 square miles and with a population of approximately 1,500 people, was chosen for the experiment. Numerous large plantations which afford occupation for many tenant farmers are found in this section. The area was divided into two approximately equal and similar parts. The inhabitants of one part were given semi-weekly doses of atabrine as outlined below, while those of the other part received no prophylactic medication but served as controls.

In early June 1937, a blood parasite survey was made which included all individuals in both the prophylactic and control groups. Throughout this study only thick blood smears were used. Nearly all individuals in both groups found to be harboring plasmodia were treated with a course of atabrine, 0.3 Gm. of the drug being given daily for five days. Two persons with positive blood smears in the prophylactic group and twelve in the control group refused the treatment.

Thereafter, for the duration of this study, every person in the prophylactic group received atabrine on two non-consecutive days of each week; that is, on Monday and Thursday, or Tuesday and Friday, or Wednesday and Saturday. The dosage of atabrine was varied to meet the requirements of different age groups.

Children of from 1 to 4 yrs. received 0.025 Gm. twice weekly
5 to 8 yrs. received 0.05 Gm. twice weekly
9 to 14 yrs. received 0.10 Gm. twice weekly
15 yrs. or over received 0.15 Gm. twice weekly

The average number of atabrine administrations for the whole group was 36.6 doses per person. Adults received an average of 5.5 Gm. of atabrine each during the five months of this study. To assure uniform administration, the drug was given, without exception, by one of two nurses and was always taken in the presence of the nurse.

Both the prophylactic and control areas were surveyed thoroughly at least once weekly for the purpose of obtaining histories of any illnesses occurring during the preceding seven days; and also for obtaining blood smears from any individuals under suspicion of having malaria. All cases of malaria seen by the attending physicians were reported to us. Blood parasite surveys of both groups were carried out in August

and again in November. Every effort was made to have these surveys as complete as possible. The race and age composition of the groups under study is shown in Table 1.

TABLE 1
RACE AND AGE COMPOSITION

GROUP	RACE		AGE DISTRIBUTION				TO-TAL
	W.	C.	1½-4 Yrs.	5-9 Yrs.	10-14 Yrs.	15 Yrs. +	
Prophylactic Group	20	706	52	92	136	443	726
Control Group	69	709	54	98	120	506	778
Both Groups	89	1415	106	190	256	952	1504

The results of the three blood parasite surveys are shown in Table 2. The June survey was made at the outset of the study, and represents conditions prevailing at the beginning of the experiment. The August survey was made at the height of the malaria season for this locality, and represents conditions when malarial transmission was at its greatest. The November survey shows the blood parasite status of both groups at the end of the malaria season.

TABLE 2
BLOOD PARASITE SURVEYS DURING 1937

GROUPS	JUNE			AUGUST			NOVEMBER		
	No. Exam.	No. Pos.	Per Cent Pos.	No. Exam.	No. Pos.	Per Cent Pos.	No. Exam.	No. Pos.	Per Cent Pos.
Prophylactic Group	723	166	22.9	717	23	3.2	666	23	3.4
Control Group	777	101	13.0	749	58	7.7	559	26	4.6
Both Groups	1500	267	17.8	1466	81	5.5	1225	49	4.0

Table 3 shows the type of plasmodia found in each of the surveys. Under the heading "Total Positive" are included only those positive blood smears in which the species of plasmodia could be identified with certainty. In the June examination one case of mixed infection with both *P. falciparum* and *P. vivax* was found in the prophylactic group. In the control group two such cases were noted. These three mixed infections are here classified under *P. falciparum* since that was the predominating species in each case.

TABLE 3
SPECIES OF PLASMODIUM

GROUPS	JUNE			AUGUST			NOVEMBER		
	Total Positive	Per Cent Falciparum	Per Cent Vivax	Total Positive	Per Cent Falciparum	Per Cent Vivax	Total Positive	Per Cent Falciparum	Per Cent Vivax
Prophylactic Group	97	72.2	27.7	12	91.7	8.3	13	92.3	7.7
Control Group	55	85.5	14.5	40	97.5	2.5	19	89.5	10.5
Both Groups	152	77.0	23.0	52	96.1	3.9	32	90.6	9.4

The percentage of blood smears positive for plasmodia in the prophylactic group decreased from 22.9 in June to 3.4 in November, or a reduction of 19.5 per cent. In the control group the decrease over the same period was from 13.0 per cent to 4.6 per cent, or a reduction of 8.4 per cent. The ratio of reduction of the two groups, prophylactic group: control group, was 2.3:1. In other words, the parasite index decreased more than twice as much in the prophylactic group as in the control group during the period of this study. In addition to any possible effect of prophylactic doses of atabrine in reducing the parasite index in the prophylactic group, two other factors operated simultaneously to reduce the parasite index in both groups. First, the therapeutic course of atabrine given in early spring to all persons in both groups whose blood contained parasites undoubtedly cured many old infections in the control group as well as in the prophylactic group; these persons otherwise would have shown parasites in the blood at the November survey. Second, due to climatic conditions, malaria was less prevalent throughout the state in 1937 than in 1936, the malarial morbidity figures for the two years being 4590 and 8438, respectively.

TABLE 4
OCCURRENCE OF CLINICAL MALARIA BY MONTHS (1937)

MONTHS	Prophylactic Group (726 Persons)		Control Group (778 Persons)	
	No. Cases	Per Cent Morbidity	No. Cases	Per Cent Morbidity
July	7	1.0	26	3.3
August	3	0.4	43	5.5
September	2	0.3	16	2.1
October	0	0.0	11	1.4
TOTAL	12	1.7	96	12.3

In four cases in the prophylactic group and twenty-seven cases in the control group, the diagnosis was made by the finding of plasmodia in the peripheral blood. In the prophylactic group the clinical cases of malaria occurred from $1\frac{1}{2}$ to $8\frac{1}{2}$ weeks after the institution of atabrine prophylaxis, the average length of time between the beginning of atabrine prophylaxis and the onset of a clinical attack of malaria being 24 days. In the control group, 54 persons (6.9 per cent) whose blood was negative for parasites at the spring examination showed plasmodia at either the August or November surveys. In the atabrine group 27 negatives (3.7 per cent) became positive in one of the later surveys. Of the 166 individuals in the prophylactic group harboring parasites at the time of the June survey 12 (7.2 per cent) also showed parasites at one of the later surveys. In the control group, of the 101 positives in June, 21 (20.8 per cent) still harbored parasites at one of the later surveys. One case in each group showed parasites at all examinations.

DISCUSSION AND SUMMARY

The efficacy of atabrine in preventing clinical attacks of malaria was studied in an area located in Macon County, Alabama. Atabrine in doses varying from 0.025 Gm. in children to 0.15 Gm. in adults given on two non-consecutive days of each week was instrumental in reducing the blood parasite index by 19.5 per cent (from 22.9 per cent to 3.4 per cent) over a period of five months—from June to November. At the same time the index of a similar control group under no medication decreased from 13.0 per cent to 4.6 per cent, a reduction of 8.4 per cent. Atabrine was administered a maximum of 43 times to the 726 persons in the prophylactic group, the average number of administrations per person being 36.6. Adults received, during the course of five months, 5.5 Gm. of atabrine. No toxic symptoms were noted throughout the course of the experiment.

The effect of prophylactic doses of atabrine in preventing clinical attacks of malaria was striking. The number of clinical attacks of malaria in the prophylactic group was 12 (1.7 per cent) during the entire season as compared with 96 clinical attacks (12.3 per cent) in the control group receiving no atabrine.

It is worthy of note that of the 12 cases

of malaria occurring in the prophylactic group, more than one-half occurred in July shortly after the beginning of prophylaxis. After July the incidence in the prophylactic group rapidly fell, reaching nil in October while during this month 11 cases appeared in the control group. In 2 of the 12 clinical cases, symptoms of malaria intervened after only 3 prophylactic doses of atabrine had been given. For the group as a whole, the onset of clinical malaria occurred after an average of 7.5 administrations of atabrine. It is clear then that the longer the course of prophylactic atabrine given, the greater is its protective power against the onset of clinical malaria.

We feel that this marked reduction in clinical malaria was in a large part due to the atabrine administered. However, the doses of atabrine (ranging from 0.025 Gm. for infants to 0.15 Gm. for adults) administered twice weekly were insufficient to give complete protection in all cases. It is our opinion that the results of this first year's work are definitely encouraging and that further studies should be made.

ASTHMA

TREATMENT WITH IODIZED OIL

REPORT OF ONE HUNDRED THREE CASES*

By

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In our Clinic we began treating asthma with iodized oil in 1932. A year later I reported a small series of cases in which the treatment had been used. Since that time we have been able to follow up 103 asthmatic patients who have been given this treatment.

In 1936, Mandelbaum of New York collected a series of a thousand cases, including my own small series and 114 cases of his. Therefore, as the present series is fairly well controlled and has been followed closely, I decided to analyze and compare my results with his report.

I have made no effort to classify the types of asthma as to etiology; all patients who were suffering with asthma were treated for a time. In order to coincide the results with Mandelbaum's for com-

*From the Marcus Skinner Clinic.

parison, the patients were divided into groups as follows: first, patients completely relieved; second, patients markedly relieved; third, patients slightly relieved; and fourth, those patients who were uninfluenced by this method of treatment.

TABLE I

Age	No.	Male	Female	Class I	Class II	Class III	Class IV
6-15 yrs.	13	5	8	4	5	1	2
15-30	30	13	17	6	13	3	8
30-50	39	15	24	10	11	5	15
50 up	21	14	7	3	2	3	13
Totals	103	47	61	23	31	12	39
Per cent				22.8	30	11.6	35.6

The patients who comprise Class I, 22.8% of the total number, were entirely relieved of the asthmatic symptoms for variable periods; some few have had no recurrences, others occasional mild attacks; but in none of these patients has there been severe attacks. As a rule, one injection of the iodized oil would serve to ward off and entirely relieve the threatening symptoms.

The second class, comprising 30% of the total number of patients, were markedly relieved but continued to have occasional mild attacks. These patients are able to remain free of the attacks under ordinary circumstances and the occasional injection of the iodized oil will prevent or control the symptoms.

Class III, 11.6% of the total, are those patients who still have the attacks but in much milder form and who will gain relief as long as they take treatments at variable intervals.

Class IV, 35.6% of the patients, seemed unaffected by the instillation of the iodized oil and continued to have the attacks. Especially was this true in the elderly patients, all of whom presented cases of long standing, marked pathology of the bronchi, even to extensive bronchiectasis.

TABLE II

Series	Completely Relieved	Markedly Relieved	Slight Relief	Unimproved
Mandelbaum's Report Of 1000 Cases	24%	34%	17%	25%
Present Series—103 Cases	22.8%	30%	11.6%	35.6%
Variation	—1.2%	—4%	—5.4%	+10.6%

The figures are fairly close except in the number who were uninfluenced by the treatment. In this group of patients, numbering 39, there were 11 who were relieved of the asthma by simple avoidance of the offending allergens. In the age group, 50 years and up, there were 13 who were unimproved. Of this number, 6 had extensive bronchiectasis, and the remainder showed very definite bronchial dilatation in the bronchograms.

In treating this series of patients only two severe reactions occurred, one in a man of 40 who had a severe iodism and the other in a young woman who was sensitive to peanuts and unfortunately the iodine used with this patient was in peanut oil. Neither was fatal but both were severe. Mild reactions occurred occasionally, usually some swelling of the cervical glands that was not severe.

These results are very encouraging and there is no doubt that a useful aid in the treatment of asthma has been found. The injection of iodized oil should be tried in all cases of asthma unless there is a definite contraindication.

513 Mabry Street

REFERENCE

Mandelbaum et al: *Med. Clin. N. Amer.*, November 1936.

Preventive Pediatrics—Sufficient evidence has accumulated to indicate the reliability of substances capable of producing active immunity against diphtheria, typhoid fever, smallpox, and pertussis. More recently, favorable results have been obtained with tetanus toxoid. In fact, the combination of tetanus and diphtheria toxoid has indicated that active immunity against both of these conditions may be produced in a shorter time than when either is given alone. Scarlet fever immunization has been disappointing. In view of the fact that this subject will be taken up in more detail in a later discussion, it is only necessary to say that the progress made in the active immunization against communicable diseases has constituted a most important part of preventive pediatrics. We have but to use the substances available to us for this purpose in order further to reduce both morbidity and mortality in the communicable diseases to which young children are susceptible—*Strong, Texas State J. Med., July '38.*

THE JOURNAL

OF THE

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ERGOT AND PITUITARY

"Ergot and solution of posterior pituitary are the most important oxytocic drugs in the pharmacologic armamentarium. Their judicious use has been a boon to the practice of obstetrics. Properly used they are of inestimable value in the course of labor and the puerperium, often contributing directly or indirectly to the saving of human life. However, their indiscriminate use has led to disastrous results for mother and baby. In fact, many authorities have intimated that the undesirable consequences of the improper use of these oxytocic drugs have outweighed the good that they have accomplished. It is because of this serious indictment that the review of the proper indications for the use of these oxytocics in obstetrics may be timely."

Thus does Davis¹ state the case for his discussion of these widely used and greatly abused drugs. The Chicago investigator holds that oxytocics are almost never indicated during the first and second stages of

labor and that it is dangerous to interfere with the normal uterine motility. "Oxytocic drugs are rarely indicated in stimulating uterine contractions."

We are told that the "solution of posterior pituitary upsets this carefully synchronized mechanism of labor. Violent uterine contractions initiated by oxytocics drive the baby's head against a partially effaced and dilated cervix. Soft tissues are battered, bruised or torn. The intensity of the contractions often results in deep cervical lacerations or, when the resistance offered by these structures is too great, in ruptures of the contractile and isthmial portions of the uterus. The tetany of the uterus interferes with the placental circulation, and asphyxia or death of the baby is the inevitable consequence. In the second stage the violent uterine contractions initiated by pituitary may result in extensive, irreparable damage to the soft tissues and the pelvic floor, in brain hemorrhage in the baby. Babies are literally driven through unprepared passageways at a terrific cost to them and to their mothers. De Lee says he feels certain that the indiscriminate use of pituitary preparations is one of the four major causes responsible for the persistently high maternal and fetal death rates in the United States."

The author believes that "solution of posterior pituitary and ergot find their greatest usefulness in the third stage of labor. Used judiciously and with the proper indications, the oxytocic drugs may often prevent the occurrence of postpartum hemorrhage and the serious results that may be caused by it.

"In the normal conduct of the third stage of labor it is usually advisable to await the complete separation of the placenta, after which its expulsion can be aided. Immediately after the birth of the placenta 1 cc. of solution of posterior pituitary can be given intramuscularly. In the event that the patient has had no anesthetic, fluid-extract of ergot can be given by mouth or ergonovine can be given parenterally. These oxytocics should help maintain the uterus in a contracted state, avoiding any unnecessary bleeding."

We are further informed that "the use of oxytocic drugs in the puerperium has enjoyed almost universal popularity. Ergot has been the therapeutic bulwark for this

1. Davis, M. Edward: The use and abuse of ergot and pituitary (special article): J. A. M. A. 109: 1631 (Nov. 13) 1937.

period. It has been credited with hastening normal involution, decreasing the likelihood of late postpartum bleeding, limiting the probable spread of intrauterine infection if present, and helping to maintain the genital organs in the best state possible."

As would be expected from one of such experience and eminence, the advice offered by Davis is sound and practical and, if all who practice obstetrics will heed the warnings that he has given, we can expect a diminution of the excessive mortality and morbidity, both maternal and fetal.

THE STATE BOARD OF CENSORS' COMMUNICATION TO THE LEGISLATORS

Under the Association Forum section of this issue of the Journal will be found an important communication furnished each member of the Legislature and emanating from the State Board of Censors, serving as a State Committee of Public Health. This material was prepared in compliance with instructions from the Association given the Board at its annual session in Mobile. In the introductory paragraphs of this communication the legal responsibilities resting upon the organized medical profession of the State in matters of public health are succinctly and lucidly set forth; which means, in actuality, that every member of a county medical society is an integral part of the health machinery of his county and of his State. It, therefore, follows that this presentation of the needs—both financial and in the field of a more expanded and efficient service—should be carefully studied by each member, so that he himself may be in position to present them to his local representatives in the Legislature.

All indications seem to point to the fact that a serious and statesman-like attitude of mind will characterise the deliberations of the incoming Legislature and that its members will gladly welcome constructive suggestions from individuals or groups of individuals, possessing technical knowledge in special fields, when such counsel is motivated by unselfish and altruistic purposes.

The time would seem particularly opportune for members of the medical profession, individually and collectively, to make a further contribution to the upbuilding of our State.

Committee Contributions

PUBLIC RELATIONS

A STUDY OF MEDICAL CARE BY THE AMERICAN MEDICAL ASSOCIATION

By

J. R. Neal, M. D.
Springfield, Illinois

Medical care is very appropriately a matter of deep concern to the people generally as well as to the medical and allied professions. Cost, quality and availability of medical care are the three factors responsible largely for the widespread agitation which has surrounded this subject in recent years in the United States. Much has been said and a great deal attempted in the way of reform on painfully meagre evidence of prevailing needs and practice. Divergent and hotly debated conclusions have been drawn from studies which embraced small samples of the general population or isolated experiences.

This situation has led the American Medical Association to undertake a comprehensive study of the whole subject on a national scale. Instead of covering a few alleged representative doctors and institutions, an attempt will be made to get a report from every practicing physician and dentist in the United States and from every hospital, clinic, public health department and other agencies engaged to any degree in providing medical services to the people. A fund of reliable information never before equaled will thus be brought together and made available for planning intelligently to meet in the best practicable way the problem of supplying medical care as adequately as possible to all the people.

Theories and utopianism will have no place in the study nor in the conclusions drawn therefrom. Only facts which will be helpful in facing reality in a rational way are desired. The end in view is to determine (1) the need for medical care, (2) the extent to which this need is being met, (3) the reasons why medical services are not more extensively employed in meeting obvious needs, (4) the volume of existing machinery for providing medical care and (5) the best method of extending medical care in a way that will meet as satisfactorily as possible all requirements.

Wholehearted cooperation of all State and county medical societies and of all in-

dividual physicians is imperative to the success of this ambitious and laudable project. State societies will be asked to study all governmental and voluntary institutions and agencies that operate on a state-wide scale and to promote the cooperation of county societies. The county societies, in turn, will be asked to get reports from each practicing physician and dentist and to cover all local institutions and agencies. Special forms have been printed for reports concerning medical services rendered by (1) individual physicians and dentists, (2) hospitals, (3) nursing agencies, (4) health departments, (5) other governmental and private organizations, (6) public and private schools, (7) colleges and universities and (8) all groups such as fraternal, mutual benefit, industrial and medical agencies which function in this way. These printed forms will be distributed through State and County Medical Societies each of which have been or will be asked to appoint committees and effect an organization to conduct the survey.

This work will entail considerable effort and some expense on the part of county medical societies. It will require the careful attention and assistance of every physician and dentist. The project is the answer of organized medicine to criticisms and to agitation for reform. Its success will be a measure of the interest and attitude of the physicians of America concerning the matter of medical care in all of its ramifications.

Costs are not considered in the survey. It deals rather with the need and the demand for medical care and the available supply of medical services and facilities. Facts on these points will lead to satisfactory ways and means of providing services commensurate with the demand if not with the needs. Some people, how large a proportion no one knows, decline to accept medical services even when they recognize the need and are well able to pay the bills. This is true of those who believe in absent treatment and various other cults. It is true likewise with respect to many other people. Ingraham of New Jersey, for example, showed on the basis of experience in that State that only one-third of syphilitic patients can be held for treatment until released without invoking or threatening to invoke the law and that even then only 70

per cent can be held. If this is true of patients with syphilis it would be true likewise of those suffering from cancer, diabetes, rheumatism and chronic ailments generally.

Adequate medical treatment, therefore, as envisioned by idealists who would save those who decline to save themselves, would involve a great deal of coercion if attempted beyond the point of demand. Coercive measures may be desirable and in some States are legalized with respect to some communicable diseases in the infectious stages. Otherwise there are no legal grounds for compelling people to accept medical care even when the need appears obvious. It may be, therefore, that an extension of educational work is more pressing at the moment than an extension or radical reform of the system of medical care.

To get factual data on the prevailing need as well as the demand for medical care, the survey will ask physicians, dentists and hospitals to show accurately how many non-paying patients were cared for during 1937. This will include those to whom services were voluntarily given free and those who failed for any reason to pay their bills or any part of the cost. Physicians and dentists will be asked also to report any and all specific instances in which a person who so desired was for any reason unable to obtain medical, dental or hospital service. Each doctor will be asked to show also how much time he spent in providing services of a preventive character, whether in his office or in connection with organized effort at some other place such as a baby clinic or summer roundup.

Similar information will be sought from all organized agencies. An inventory of the capacity of hospitals, sanatoria and clinics and of the extent of services provided by health departments and other agencies will be taken.

The vocal demand for extending medical care through compulsory insurance schemes and in other ways may be regarded as the expression of a patient who at least thinks himself to be very sick. He has arrived at a self-made diagnosis and is clamoring for treatment of his own prescribing. He has compared his symptoms with those seen in advertisements and has decided upon a remedy held out to be a panacea.

The proposed study by the American

Medical Association is an expression of the highest ideals of medical practice. The detailed survey will bring together all of the essential information bearing upon the symptoms of the patient. It will amount to a careful history taking and a painstaking examination of the physical and mental conditions. Taking nothing for granted and jumping at no conclusions, the result will be an accurate diagnosis and a reliable, rational and effective prescription calculated to bring maximum benefits to the patient.

The success of the survey will place the American Medical Association and each of its component units in a commanding position of leadership in the medical field. It will make possible the projection of medical services along lines of unsurpassed excellence with respect to the patient, the public and the profession. It will lead to a practical plan for such readjustment and reform as may be necessary to place at the disposal of the American people a system of medical practice superior in quality and more readily available to all who need it than has ever before been developed anywhere.

The project warrants the unqualified support and cooperation of every physician throughout the nation.

PREVENTION OF CANCER

A COMMUNICATION TO THE PROFESSION

The Association's Committee on Prevention of Cancer is engaged in an educational campaign to arouse public interest in the early diagnosis of cancer and its adequate treatment, as the only means of reducing the ever-increasing death rate from this disease in Alabama. Your full cooperation with this campaign is urged.

We respectfully call the profession's attention to the fact that any number of instances have come to our attention, through the laity, of women who have become concerned about the presence of cancer, and, upon consultation with the family physician, were told, without an examination, that they were unduly alarmed, had no cancer, and should forget about it. This discredits the profession and the cause of cancer control. In several instances these alarmed individuals left their family doctor to consult others who would make the necessary examinations.

Let us urge you to examine carefully such patients even in the face of groundless anxiety. If you are not in a position to give the information desired, refer them promptly to some confrere who is equipped for such work.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

FUTURE PLANS AND NEEDS OF ALABAMA'S HEALTH DEPARTMENT

Prepared by the State Committee of Public Health and the State Health Officer for the Consideration and Guidance of the 1939 Legislature

NOTE: At the last annual session, the Association unanimously adopted a resolution instructing the State Board of Censors and the State Health Officer to give careful study to the health needs of the State, as well as to the present appropriations being made by the State to meet these needs, and to submit the result of such studies for the consideration of the next Legislature to be convened in January, 1939. This has been done, and the material appearing below, together with certain other pamphlets dealing with specific health problems, such as organization, tuberculosis and venereal disease, has been furnished each Legislator. The Board feels

these matters are of such vital concern to the entire medical profession of the State that each member should make himself sufficiently familiar with these needs so as to be able to intelligently present and discuss them with his senator and representatives. The hope is further expressed that he will take the time and have pleasure in doing so.

To the Members of the Alabama State Legislature:

Gentlemen:

Prior to your convening in January 1939, the undersigned, constituting the State Committee of Public Health, upon which body the laws of this State have placed the responsibility of directing the public health affairs of Alabama, beg to submit the following facts for careful consideration by

each one of you. Inasmuch as the subjects touched upon herein are of such paramount importance to the people of our State, this Board feels that it would be derelict in the performance of the legal duties imposed upon it, did it not convey to you its own views and plans for the expansion and improvement of the health services of the State.

Please feel assured that this Board and its executive, the State Health Officer, stand ready to render to your honourable body any assistance within their power.

Respectfully,

State Committee of Public Health:

E. V. Caldwell, M. D., Chairman,

W. D. Partlow, M. D.,

Lloyd Noland, M. D.,

M. Y. Dabney, M. D.,

Fred W. Wilkerson, M. D.,

S. A. Gordon, M. D.,

J. D. Perdue, M. D.,

M. S. Davie, M. D.,

K. A. Mayer, M. D.,

T. Brannon Hubbard, M. D.,

J. N. Baker, M. D., Secretary

State Committee of Public Health,
and State Health Officer.

Alabama is the only State in the Union which has seen fit to utilise, by law, the resources and trained talent of its medical profession in the administration and control of all public health affairs within the State. The system, while unique, has, for more than sixty years, functioned so smoothly and so efficiently, that this State's Health Department, despite financial restrictions and reverses, ranks enviably high in the health field. While the reasons for our present position may be many, two are outstanding:

(1) The leadership, loyalty and devotion of the State's medical profession to the cause of public health; and

(2) The vision, liberality and willingness, on the part of succeeding Legislatures, to make it financially possible to promote the State's interests through the building of a strong and efficient public health system.

The chief advantages may also be listed as two:

(1) It places squarely upon the shoulders of a trusted and trained professional group its technical burden of health and

clothes it with the necessary power for enforcement.

(2) In so doing, it automatically removes its health machinery from the changing, fickle currents of the political stream, thereby giving to it a greater degree of coherence, continuity and permanency.

As a consequence, at the beginning of this year—1938—we witness each of its sixty-seven counties possessing its own health department. While it is true that the personnel equipment of many is minimal and not all that is to be desired, it none-the-less represents a worthy and good beginning. This completed structure has taken more than twenty years to build and could not have been built save through the joint efforts of state and county governments, under the guiding hand of the medical profession, whose interests, throughout the years, has never lagged. As proof of this interest the State Medical Association, at its 1938 annual session, upon the recommendation of the State Committee of Public Health, unanimously approved the following resolutions:

"Whereas, The protection of the public health is basic and fundamental, representing the foundation upon which future progress must be built; and

"Whereas, Through the continuing support and efforts of this Association, which constitutes the State Board of Health, complete organisation for health work in every county in the State has been attained; and

"Whereas, Through the vision displayed by the last Legislature in making available to counties additional revenues to be specifically applied to their health needs, this end has been made financially possible; and

"Whereas, The State's general revenues have been materially increased by the recent enactments of this Legislature; and

"Whereas, During recent years many essential and necessary health activities have been curtailed or suspended, because of a lack of funds, both State and local; therefore

"(1) *Be It Resolved*, That the Medical Association of the State of Alabama, as the legally constituted State Board of Health, reposing confidence in the State Board of Censors and in its executive, the State Health Officer, and appreciating the need for a more expanded health service for the protection of our people, gives full endorsement to the contemplated plans looking to a broadening and strengthening of health services throughout the State; and

"(2) *Be It Resolved*, That the State Board of Censors of this Association, acting as a State Committee of Public Health, and the State Health Officer, be instructed to present to the next Legislature a comprehensive outline of the State's

present health needs together with such changes in or additions to existing laws and appropriations necessary to attain this end; and

"(3) *Be It Resolved*, That local governmental agencies, county and municipal, be urged to make the financial provisions necessary to provide adequate health protection for those within their jurisdiction."

Since the above resolutions were adopted, the State Committee of Public Health and the State Health Officer have given careful thought to both the financial needs of the Health Department for the next quadrennium and also to certain forward-looking and constructive legislation which it is felt should be given consideration when the Legislature convenes in January 1939. In order that the members of this body may have before them the fruits of the study which the Board of Health has made, the following information and data are being furnished each member in advance so that he may leisurely ponder over them and the better crystallise his own views.

It has now become axiomatic that the machinery for modern, scientific public health work, to be efficient, must be properly administered and manned by a sufficient number of trained technical personnel, as well as supplied with adequate funds for maintenance and growth. Up until 1931, the outstanding lead which Alabama's Health Department had gained, and which had taken many years to build, was due to the recognition by the succeeding Legislatures of the need for sound health work and their willingness to provide sufficient funds for its prosecution. The drastic curtailments subsequently imposed upon the Health Department—a reduction in State appropriation from \$686,000 to \$430,000—were more likely due to a lack of full appreciation of the real need for service, if Alabama is to forge forward, than to a desire to permanently cripple so necessary a service. However, with the passage of the Social Security Act by the Federal Congress in 1935, Alabama's Health Department was enabled, through the aid given states, to regain some of the ground lost through financial retrenchments. The thought of every forward-looking citizen and statesman now must be to make available the necessary funds to carry forward the sound and expanding program which has been planned for Alabama and for the prosecution of which the machinery already exists.

There follows below a brief description of some of our most urgent problems and needs:

A

THE VENEREAL DISEASES

Over a number of years progress made in Alabama in the control of the venereal diseases—syphilis and gonorrhea—was a distinguishing activity of the State Department of Health. While it is true that the Federal Congress has recently made available a certain amount—\$3,000,000—to be divided among the states for the control of the venereal diseases, Alabama's share will have to be further supplemented by state funds, if this tremendous problem is to be at all adequately cared for. The magnitude of the syphilis problem in this State is briefly set forth below:

Approximately 37 per cent of Alabama's population consists of Negroes, and the venereal diseases, especially syphilis, constitute a particularly serious problem among the colored people. A study was made some time ago of the prevalence of syphilis in a certain Alabama county, and this revealed that approximately 36 per cent of the Negroes receiving the Wassermann test were syphilitic. Conservative syphilologists estimate that approximately one-fourth of all the Negroes in the State have this disease. On the basis of that estimate, there are nearly 268,000 cases of syphilis among the Negroes of Alabama.

It is estimated that there are between 400,000 and 425,000 syphilitics in Alabama at the present time, including members of both races. If all of these could be concentrated in a single community, that community would constitute by far the largest city in the State, being larger than Birmingham, Montgomery and Tuscaloosa combined. Such a city would have a population greater than that of the entire State of Arizona and more than four times that of the State of Nevada. It would be the largest American city south of the Potomac and Ohio Rivers, with the exception of New Orleans.

In 1936, the latest year for which complete statistics are available, syphilis was directly responsible for the death of 491 persons in Alabama. This was more than five times as many as died of typhoid fever, nearly nineteen times as many as were killed by measles, more than four times as

many as died of diphtheria, and nearly one-ninth as many as were killed by heart disease; by far the largest single cause of death in the State.

In addition to the 491 persons in Alabama whose deaths were directly due to syphilis in 1936, this disease is believed to have been indirectly responsible during that year for approximately 725 other deaths attributed to various diseases. Thus, directly and indirectly, it was responsible for a total of approximately 1,216 deaths. On that basis, it ranked in eighth place among all diseases as a cause of death in this State.

According to the records of the Bureau of Preventable Diseases of the State Department of Health, 16,385 cases of syphilis were reported from all parts of Alabama last year. Because of the difficulty of obtaining complete reports of communicable diseases, it is believed that the number of new cases actually occurring was much larger. The number of reported cases of syphilis was larger than that of any other disease, with one exception, influenza. The total number of reported cases of the two major venereal diseases, syphilis and gonorrhea, far exceeded that of any single disease reported to this Bureau.

Alabama now has a local health department in each of its 67 counties, functioning in close and friendly co-operation with the State Department of Health and devoted primarily to the task of serving, as efficiently as possible, the public health needs of their own communities. Each of these 67 local units is in an excellent position to carry on an effective campaign against the venereal diseases if adequate funds can be made available for this work.

B

TUBERCULOSIS

With some 1,750 deaths annually from tuberculosis in this State, this disease unquestionably constitutes one of our outstanding health problems. From such a death rate, it may be conservatively estimated that there are more than 10,000 open, active cases within the State. Alabama has no state-owned, state-operated institution for the tuberculous; and the Health Department, believing that tuberculosis is primarily a local and community responsibility, does not advocate the complete assumption of this burden by the State. This,

by no means, implies that the State should have no interest nor financial responsibility in the matter. It should and must have. The plan now operating provides for State participation in two ways:

(1) State-wide diagnostic services rendered through the central health department;

(2) A subsidy to counties and districts maintaining tuberculosis sanatoria.

At present there are but 7 institutions, representing 350 beds. The present state appropriation for this specific purpose is \$75,000, out of which each institution is paid on the basis of 75c per diem for each case cared for. The contemplated plan of expansion calls for some six to twelve additional district sanatoria of some 50-bed capacity. As this program develops, it will be seen that a larger state appropriation to the counties will be needed and that likely the state's contribution of 75c per diem should be increased to one dollar, as was provided in the original bill passed in 1931. (See Act No. 383, approved July 10, 1931, as amended by Act No. 510, approved September 14, 1935.) While this state aid, because of reduced revenues, has been available to counties but a little more than one year, it has proven a tremendous stimulus to the whole tuberculosis program. To make this expanded program operative, the present allotment of \$75,000 should be increased gradually over a period of several years. Careful study will be given to the State's needs in this regard and later these needs will be submitted for consideration by the Legislature.

C

STATE APPROPRIATIONS

(See Act No. 80, General and Local Acts, Extra Session of 1936)

The present State appropriation for health work in Alabama is \$430,000; \$400,000 for general health work and \$30,000—a special ear-marked appropriation—for Pasteur treatments. The \$400,000 is almost evenly divided into two parts, one as a state subsidy to counties to be immediately applied to budgets for local health work; the other for purposes of central administration, such as the operation of the central laboratory and its eight branches, manufacture of typhoid and other vaccines, purchase of diphtheria antitoxin for the in-

digent, etc., as well as carrying on the manifold activities of its several bureaus of engineering and inspection, vital statistics, nursing, county organisation, etc. With the completion of health organisation in every county of the State, coupled with the increased demand for expanded services in many important fields, such as sanitation and engineering, of venereal disease and tuberculosis control, of maternal and child health, even with the federal aid now being received through the Social Security Act—most of which has to be matched—a careful study, on the Board's part, of the present and future needs of the Health Department, if the programs for reasonable and wholesome expansion are to go forward, reveals that the present annual appropriation of \$400,000 for general health work should be increased to \$500,000 annually during the next quadrennium. In the light of the experiences of the past few years, when the Health Department's appropriations have been drastically reduced because of proration, the Board is strongly of the opinion that the Legislature should see to it that the appropriations fixed by it for so basic and necessary an activity as the protection of the public health should be *continuing, uninterrupted, not subject to change and payable in full*, unless altered by the Legislature itself. It should be plain to any one the impossibility of planning and conducting a sound public health program in the face of an ever-threatening uncertainty of the amount actually to be received. Knowing to what a large extent Alabama's future material progress hinges upon the physical and moral fitness of its man-power—present and future—the Board urges upon the Legislature the importance of strengthening, in all possible ways, this most necessary arm of state government.

In studying the State's health needs as a whole and the manifold activities carried on through the Health Department, one must not lose sight of the ever-growing demand made upon the central organisation by local health units for special types of service requiring a properly trained technical and professional staff to aid in the execution and guidance of soundly formulated programs. As stated above, approximately one half of the State's appropriation—and this applies also to federal funds—is immediately thrown into local health bud-

gets for financing necessary and basic activities common to all health work. In truth, the average county health department is not in position to finance these special types of services; this has to be done through a trained staff operating from the central office. When consideration is given to this added service to the several counties, it is found to be a fact that much the greater part of all monies available for public health in Alabama flows directly back to the counties.

Regarding the special appropriation for Pasteur treatments, the State, for some 30 years, has recognised its responsibility to the public in the matter of rabies and has sought to provide facilities for making available the vaccine to humans bitten by rabid animals. During the past decade, the rabies problem, both human and canine, has continued to be of such serious import in this and other states, that Alabama's Health Department was constrained to move in two definite directions:

(1) To provide better control of rabies among dogs—the chief source of human rabies—through the enactment of statewide legislation looking to this end (see page 229 of the General and Local Acts of the Extra Session of the 1936-1937 Legislature); and

(2) A scientific study and investigation of the whole problem of rabies and its control.

The last extra session of the Legislature of 1937, appreciating the seriousness of this preventable menace, enacted a statewide law, which has been operative for a little more than one year. The present Rabies Act, representing as it does a series of compromises, while by no means perfect, does represent a difficult beginning in the right direction. Experience thus far gained points that this Act should be amended and strengthened in certain particulars. A little later, the Board, in collaboration with the State Health Officer, will submit, for your consideration, certain alterations in this Act which seem indicated. This special appropriation should be continued during the next quadrennium.

D

AMENDMENT OF THE PRESENT MARRIAGE LAWS

In the light of an aroused interest and consciousness, on the public's part, as to the

seriousness to society of the effects of the venereal diseases, and, in view of the efforts now being put forth by the medical profession and health workers to curb their ravages, this Board feels that the time is opportune for amending and bringing up to date Alabama's present rather antiquated and outmoded laws. The present law requires only of the male contracting party a more or less perfunctory certificate from a physician stating that, at the time of examination, no evidence of venereal disease had been detected. This law should be broadened so as to embrace both contracting parties and to include certain laboratory examinations known to be necessary for the protection of the offspring. Already quite a number of the states have taken this forward step. The Board is now giving this matter study and will submit for the Legislature's consideration a suitable bill embracing the features necessary for the protection of society.

COORDINATION OF HEALTH AND WELFARE ACTIVITIES OF THE FEDERAL GOVERNMENT

FOREWORD

Importance of the subject, embraced in an address prepared for the House of Delegates of the American Medical Association in annual session, San Francisco, July 13-17, 1938, by Miss Josephine Roche, Chairman of the Interdepartmental Committee to Coordinate Health and Welfare Activities of the Federal Government, is such as to justify a reprinting herein. The address is reproduced from the proceedings of the House, as is also the report of the committee to which the address was referred.

"The Interdepartmental Committee was created in August, 1935, following the passage of the Social Security Act, in order that the full benefits of the varied Federal program under the Act's provisions might reach with minimum delay and maximum effectiveness the individual men, women and children for whose aid and service the program was brought into existence. Obviously, duplication of work and effort, conflict in policy or procedure among Federal agencies had to be prevented, and common understanding and action developed if the values of the program were to be translated quickly into realities.

"As members of this Committee, the President designated four Assistant Secretaries of Government Departments—the Treasury, Interior, Agriculture, and Labor—and the Chairman of the Social Security Board.

"The Committee's first task was the setting up of technical committees to work out immediately cooperative agreements between Federal agencies functioning together in the States. Two may be used as illustrations: the agreement between the United States Public Health Service and the Children's Bureau on public health nursing, and the agreement between the United States Public Health Service and the Division of Labor Standards, on industrial hygiene.

"The technical committee of Children's Bureau and United States Public Health Service representatives worked out an agreement defining the objectives, setting standards of service, and committing both the Children's Bureau and the Public Health Service to a joint approach to the various State Health Departments, so that efforts of the two agencies should not be retarded by any duplication of effort or multiplicity of supervising units, with the inevitable misunderstandings and confusion in the field which would result.

"The industrial hygiene agreement was the result of a desire on the part of the Department of Labor and the Public Health Service to promote in the States the establishment of industrial hygiene units in the State Health Departments which would cooperate with the State Labor agencies in the pursuance of the common objective—protection of the working population from industrial health hazards.

"Other technical committees working out similar interdepartmental agreements for administrative coordination are those on Crippled Children and the Needy Blind.

"While there has not been, of course, one hundred per cent success in eliminating duplication of effort and competition between interested agencies in the States, we are convinced that the three years' experience has evolved a useful and unique mechanism for coordinated procedure. Useful in that technical groups may meet together and, through conference and interchange of experience, approach mutual understanding and agreement based upon a solid foundation of fact. Unique, in its simple combination of facilities to provide direct administrative action when technical groups have determined the procedures through which harmony of action may be achieved.

"Working under the instruction of the Executive Order 'to study and make recommendations concerning specific aspects of the health and welfare activities of the Government' are the technical committees on Recreation, Nutrition, Crime Prevention and Parole, and Medical Care.

"In the work of the last-named committee you have, of course, a special interest, and our Interdepartmental Committee is deeply grateful and encouraged to know that a number of you, including some of the officers of the American Medical Association, are to be with us at our National Health Conference July 18, 19 and 20, when the full report of this technical committee will be submitted and discussed.

"At the time the Technical Committee on Medical Care was formed the National Health Survey of the Public Health Service was nearing completion. You are familiar with the results of

that Survey, covering, as it did, some 800,000 families, including 2,800,000 persons, and supplemented by reports from physicians, health officers, and institutions providing medical services. This Survey made it possible to measure health needs quantitatively and to determine the degree of correlation among all the factors involved. It provided an index not only to the prevalence of disabling illness for the population as a whole, but according to age, sex, occupation, family income, living standard, and size of community. It made it possible to weight these factors in relation to mortality figures as well as to medical and nursing care received and to the availability of hospital facilities.

"The overwhelming central fact established by the National Health Survey is this: that with poverty goes not only a higher rate of sickness but a deficiency of medical care. These correlations were proven not only for the relief group but for struggling families above the level of relief. Many may have considered these facts too obvious to require proof, and certainly they had been supported by innumerable smaller studies. But never before had such a mountain of evidence been assembled to sustain the conclusion that among the poor there is an excess of sickness and death which requires preventive services and medical care proportionately greater than are required in the higher income groups. And never before had it been so convincingly shown that in many areas and localities those economic groups which are most in need of preventive services and medical care are receiving far less of both than are families with larger individual financial resources.

"The National Health Survey irresistibly drew the attention of the Interdepartmental Committee to the national problems of health and medical care. The Technical Committee on Medical Care was directed to study the results of the National Health Survey and to correlate with them all other available data on the subject. After more than a year of work, the Technical Committee produced a report on 'The Need for a National Health Program' which was transmitted to the President last February. Already a part of this report, in which the health needs of the country are stated comprehensively, yet concisely, has been made public; with facts and conditions such as it sets forth you have long been familiar, through the years of generously contributing your skill and services to the destitute and broken men, women and children who have turned to you for aid in illness and suffering. It is to be hoped we may have graphically given to us by your own survey the full extent of the free services of the medical profession. It would be a good thing for every citizen to realize more clearly the immensity of the philanthropic burden which the members of the medical profession voluntarily assume.

"We have the information as to health and medical needs in broad national terms. Your survey should be of great value in amplifying existing data regarding many specific localities and in presenting needs as they are seen in the field by practicing physicians. In this, as in all other fields, it is necessary always to keep in

mind the difference between active demand and actual need. Our present picture of the total need may be amplified or modified in detail as further special studies are made. But the report of the Technical Committee on Medical Care, based upon all available data—including direct contacts with large numbers of individual citizens as well as with professional groups and agencies—establishes conclusively the existence of grave and far-reaching needs.

"Together with you, those of us who have been battling on the economic front against unemployment, starvation wages, indecent housing and utterly inadequate food, find nothing new, but only shocking confirmation of the extent to which human and economic waste has been permitted to go on, when we read from the Technical Committee's report on The Need for a National Health Program such facts as the following: On an average day of the year, there are four million or more persons disabled by illness. Every year seventy million sick persons lose over one billion days from work on customary activities. In 1936, nearly a quarter of a million women did not have the advantage of a physician's care at delivery; 15,000 of these were delivered by neighbors or relatives; 223,000 were delivered by midwives, most of whom are untrained and ignorant.

"In 1937, of 49 State health officers responding to a questionnaire, only two reported the facilities for maternal care in their States as adequate. In large areas and groups of the population the death rates between the second and twelfth month of infancy are as high as they were for the whole country twenty years ago. Community measures for the control of communicable disease, so necessary in checking the acute infectious diseases of childhood, are inadequate in the greater proportion of rural counties throughout the country.

"Each year, 40,000 young adults between the ages of 15 and 45 die from the ravages of tuberculosis. The deaths among these young adults represent about three-fifths of all deaths from this cause.

"Preliminary results from the National Health Survey indicate that disabling illness in the relief population occurred in 1935 at an annual rate 47 per cent higher for acute illness and 87 per cent higher for chronic illness than the corresponding rates for families with incomes of \$3,000 and over. The annual days of disability per capita in the relief group were found to be three times as great as among upper income families; the non-relief population with an income under \$1,000 showed a rate of disability over twice that of the highest income group. One in every 20 family heads in the relief population was unable to work because of chronic disability, as contrasted with only one in 250 heads of families with incomes of \$3,000 and over. Children of relief families experienced 30 per cent greater loss of time from school and usual activities because of illness than did children in families in moderate and comfortable circumstances. Only 70 per cent of the cases of disabling illness among relief persons received medical attendance exclusive of hospital care, compared with a figure of 83 per cent for those with a family income of

\$3,000 and over. The average medical services per case of disabling illness were about 50 per cent higher in the highest income group than among persons on relief. Beside nursing care in the home was given to less than one per cent of the disabling illnesses among persons on relief; the proportion so attended in the group with family income of \$3,000 and over was 10 per cent.

"These are only a few examples—plucked more or less at random—from the data which we have about the low income groups of our people. We must keep constantly in mind the fact that approximately fifty million of our population are in families with an annual income of less than \$1,000 a year.

"When facts of denial and destruction of human values, such as these I have mentioned, are discussed in terms of the size of the population involved—the tens of millions of men, women and children who are their victims—the problem of providing adequate health and medical services obviously demands concerted public action for its satisfactory solution.

"In calling the National Health Conference the Interdepartmental Committee is carrying out the suggestion of the President that it invite representatives of the interested public and of the medical and other professions, to examine the health problems in all their major aspects and to discuss ways and means of dealing with these problems.

"The National Health Conference is planned as a working conference. To provide the best opportunity for frank discussion, it is necessary to limit the number of participants, but the Interdepartmental Committee hopes that they will be truly representative of both the professional groups, who have the technical knowledge, and of the general public, which is vitally interested in the distribution and application of this knowledge.

"It is hoped that the conference will contribute to two ends: First, a better understanding of national needs in the field of health and medical care. Second, the formulation of policies which will enable the medical and other professions, private organizations, Federal, State, and local agencies, and individual citizens, to cooperate in efforts to meet these needs.

"The Technical Committee on Medical Care will submit to this conference not only its analysis of needs but certain tentative recommendations as to means of meeting them. These recommendations have been submitted to the President, and it is at his suggestion that they will be submitted to the consideration of the National Health Conference. The report deals with several broad problems: First, the need for more comprehensive public health services to combat specific diseases or groups of diseases, such as tuberculosis, the venereal diseases, pneumonia, malaria, cancer and other chronic diseases of middle and old age, mental disease and deficiency, and industrial hazards.

"Secondly, the need for expansion of maternal and child health services; the Technical Committee estimates that half the infant deaths and half the maternal deaths could be prevented by the

application of the knowledge and skill which your profession now has.

"Thirdly, the shortage or unequal geographical distribution of hospitals, clinics, doctors, dentists, nurses, and other agencies and trained experts in the field of health and medical care.

"Fourthly, means of providing more adequate medical care for recipients of public assistance and other persons of very low income.

"Finally, methods of financing the sickness costs of self-supporting persons of limited means.

"We do not intend to ask the National Health Conference to take formal action on any part of this report. We hope that none of the groups or individuals participating in the conference will attempt to make premature judgments or urge others to do so. Our purpose is to obtain the frankest discussion of ways and means of dealing with these immense and complex problems. We hope that the participants in the conference and, subsequently, other groups and individuals throughout the country, will give us the full benefit of their knowledge, experiences, and ideas.

"No one formula or program can possibly be found adequate to meet the varied needs, but a composite of many efforts and plans, some already tested, some in experimental stages, some not yet under way, can and must be found. We believe that by providing an opportunity for an interchange of views between representatives of the medical and other professions, of various agencies, and of the general public, the National Health Conference will dissipate misunderstandings and work toward a meeting of minds on the beginning of a coordinated national health program.

"That there will be concerted public action eventually for such a program no one measuring the human needs and denials can doubt. In this great democracy with its unsurpassed resources and potentialities for human progress, one-third of our people are not going indefinitely to remain ill-fed, ill-housed, ill-cared for in sickness. Already they are on the march, and the only question which remains is whether highly specialized groups, experienced and trained in ways and means of meeting human needs, are going courageously and quickly to offer all they can give in constructive and progressive leadership and help in the meeting of the vast human problems of today.

"You have your instruments of precision for diagnosis and treatment; your techniques for prevention and cure are among the wonders of the modern world. How can we help to bring them to all our people who need them? That is the question which we submit to you today, the question we shall ask at our conference, must go on asking until we find the answer."

REPORT OF REFERENCE COMMITTEE ON EXECUTIVE SESSION

"Your committee believes that it expresses the sentiment of the House of Delegates in saying that it is glad to have received a communication from the chairman of the Interdepartmental Committee, Miss Josephine Roche. It is particularly welcome since it is the first official com-

munication that the American Medical Association has received from this important government committee.

"Your committee notes with interest that the studies have resulted in the coordination of health activities involved in the Public Health Service, in the Department of Labor and in the Children's Bureau. It trusts that future results will bear out the promise of increased efficiency.

"Possibly the most interesting data quoted are those which would indicate a much higher rate of sickness in the subeconomic groups. This raises the question whether the economic factor involved is not of greater importance than is the lack of medical care in the cause of illness.

"The address contains many interesting statements regarding medical care, some of which are at variance with data accumulated in the files of the Bureau of Medical Economics.

"Although your committee agrees in principle with many of the objectives which the Interdepartmental Committee has in view, nevertheless there may be some danger involved in their execution. Your committee has in mind, for example, the devotion of huge sums of money to the care of certain specified diseases. Experience has already shown that such action may produce a lack of balance in the entire program for med-

ical care which can retard rather than expedite progress.

"Your committee emphatically agrees with the statement in the address which reads as follows: 'No one formula or program can possibly be found adequate to meet the varied needs of medical care.'

"Your committee notes with satisfaction that a group of physicians has been invited to take part in the discussions of the forthcoming national health conference and that it includes officers and leaders of the American Medical Association. This will make available a vast amount of information concerning the subjects involved which has been accumulated by the American Medical Association over a period of years, including the results of our national survey of medical service. Your committee is confident that the official representatives will be guided by the principles and opinions which have been repeatedly expressed by the House of Delegates.

"Respectfully submitted.

J. D. BROOK, Chairman.
W. F. BRAASCH.
WILLIAM R. BROOKSHER.
DON F. CAMERON.
MEREDITH MALLORY."

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

J. N. Baker, M. D.
State Health Officer in Charge

TREATMENT OF PELLAGRA WITH NICOTINIC ACID

Contributed By
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Some time ago Dr. Tom D. Spies began in the City of Birmingham a series of tests showing the effect of nicotinic acid in the treatment of pellagra. The results of these experiments he described in a paper which he read at the annual meeting of the American Medical Association in San Francisco on June 15, but, as this article is being written prior to the publication of that report, it can include no discussion of Dr. Spies' findings insofar as they may be based upon studies of Alabama pellagrins.

However, the Birmingham studies were merely in the nature of an extension, or continuation, of earlier studies of the effects of nicotinic acid upon pellagra which Dr. Spies has been carrying on for a long time in collaboration with others, notably

Dr. Clark Cooper and Dr. M. A. Blankenhorn, and the conclusions reached on the basis of these earlier studies have been described and discussed in some detail in a paper read at a meeting of the Central Society for Clinic Research, held in Chicago on November 5 of last year and published in the February 26 issue of *The Journal of the American Medical Association*.

"It is now commonly believed that pellagra in human beings and blacktongue in dogs are either analogous or closely related diseases," he said at that time. "All food substances which have been curative and preventive for one have been for the other also. The observations of Elvehjem, Madden, Strong and Wooley regarding the cure of canine blacktongue by the use of nicotinic acid suggested that this substance might be useful in the treatment of human pellagra."

It was to ascertain the degree of usefulness, if any, of nicotinic acid in the treatment of pellagra in man that Dr. Spies began his experiments in Cincinnati, assisted by the medical collaborators who have been mentioned. But, before beginning their studies, it was necessary to ascertain what

was a safe dosage of nicotinic acid for human beings.

"Thirteen persons, three members of the staff and ten nonpellagrous patients, were given an aqueous solution of nicotinic acid (Eastman) orally each day," he related in his report. "The dose varied in amount and was usually begun at a few milligrams daily and in some instances was increased until 200 mg. were being given daily. Nine persons had a reaction characterized by severe flushing, itching and tingling, particularly of the face and extremities, which occurred within twenty minutes after the administration of the nicotinic acid. At the peak of the flushing there was no demonstrable effect on the blood pressure, temperature or respiration. In no instance did the oral administration of less than 50 mg. produce any effect, and usually the reaction occurred only when large amounts were given. The symptoms in all persons subsided rapidly, leaving no residual changes."

After several weeks of these preliminary studies, Dr. Spies and his associates became confident that nicotinic acid could safely be given by mouth. Then they found that single doses of this drug, as large as 30 mg. could be administered intravenously in a solution of sterile physiologic solution of sodium chloride at the rate of 2 mg. a minute without producing any reaction.

"We can make no statement as to the limitation of this form of administration," Dr. Spies went on. "We have given as much as 80 mg. to one patient intravenously in a period of several hours and have given infusions of a liter of physiologic solution of sodium chloride containing 100 mg. of nicotinic acid without the development of untoward symptoms. With these preliminary observations in mind, we decided that if care was used nicotinic acid could safely be given to pellagrins."

Dr. Spies referred to some earlier experiments in which he had tested the efficacy of pellagra treatment. This consisted, in brief, of selecting severely ill pellagrins with classic lesions of the mucous membrane, isolating them and seeing to it that they were limited to a basic diet. Although he pointed out that this was not a perfect test, in part because of the effect of pre-test diets upon the subjects of the test and in part because of the difficulty of obtaining a 100-per-cent antipellagra diet, he was

convinced, he said, that "if the lesions of the mucous membrane are fiery red and are not improving while the patient is restricted to a basic diet," changes in the mucous membrane are indicative of the effectiveness of such treatment as may be under study.

"If the substance is of therapeutic value, the lesions heal promptly when adequate amounts of that substance alone are added to the basic diet," he said. "The swelling and fiery red color usually subside within forty-eight to seventy-two hours; often this change occurs much earlier. It has been shown that great difficulty arises if one attempts to use the dermatitis of pellagra as an index to judge the efficacy of treatment."

With these results in mind, Dr. Spies and his associates selected eleven pellagrins for study. He continued:

"The group was composed of two persons with endemic pellagra, three pellagrins whose disease followed chronic addiction to alcohol and six whose pellagra was secondary to organic disease. The selection of these eleven persons depended upon the presence of glossitis or stomatitis or both. Other manifestations of pellagra were also present in the majority of cases. In six the condition was of the classic type, with typical lesions of the mucous membrane and dermatitis. In five the cutaneous lesions were absent (pellagra sine pellagra). Tabulation of the relative severity of the lesions was necessarily arbitrary, and more complete descriptions will be found in the individual case reports. A patient was considered as having anemia if the hemoglobin value was less than 12 gm. per hundred cubic centimeters (Sahl method) or the red cell count less than 4,000,000. He was considered as having tachycardia if the heart rate was 100 or above on two or more medical examinations when he was at rest in bed."

Nicotinic acid in crystalline form purchased from the research laboratories of the Eastman Kodak Company was given (1) orally, dissolved in hot water; (2) intravenously, dissolved in physiologic solution of sodium chloride in such a way that one cc. contained 1 mg.; and (3) by hypodermoclysis, the above-described solution being added directly to large amounts of physiologic solution of sodium chloride.

The experimenters' conclusions, as discussed by Dr. Spies in his paper, were as follows:

"1. The lesions of the mucous membrane in eleven cases of pellagra (two of endemic pellagra, three of alcoholic pellagra, and six of pellagra secondary to organic disease) were cured promptly by means of nicotinic acid. In five cases dermal lesions were absent (pellagra sine pellagra). Nicotinic acid had no apparent effect in four cases of nonpellagrous glossitis.

"2. The pellagrous glossitis, stomatitis, pyalism, vaginitis, urethritis and proctitis did not reappear while the patients received nicotinic acid, despite the fact that four of the patients continued to eat only small amounts of a pellagra-producing diet. After the disappearance of the pellagrous glossitis and stomatitis in case 6, the patient remained on the same diet, but the administration of nicotinic acid was discontinued, with the result that the conditions recurred.

"3. Severe cases of pellagrous dermatitis, that is, those in which the continuity of the skin had become broken and the lesions were moist, ulcerated and thickened, did not seem to be specifically benefited by nicotinic acid. However, the acute fiery red, erythematous lesions in which the epithelium was intact blanched within twenty-four to forty-eight hours after the administration of nicotinic acid.

"4. The manifestations of peripheral neuritis became worse in case 9 when small amounts of the basic diet and supplements of nicotinic acid were taken. The symptoms of peripheral neuritis have previously been observed to progress simultaneously with healing of the mucous membrane and the dermal lesions.

"5. This study gives little information as to whether nicotinic acid is effective in the treatment of the severe mental symptoms of pellagra. It has been observed previously that such mental symptoms often disappear after persistent antipellagra therapy over a long period. The patients in this study who had mental symptoms were too severely diseased to warrant their remaining on an unbalanced diet for a sufficient period for us to determine this point with any degree of finality.

"6. Studies by the method of Castle, Townsend and Heath on two patients with pernicious anemia showed that nicotinic

acid is not the 'extrinsic factor.' It is of interest that the pellagrins included in this study excreted large amounts of porphyrin as described by the method of Beekh, Ellinger and Spies. This porphyrin is coproporphyrin I and III, both of which are abnormal in the metabolism of porphyrin. The amount of porphyrinuria diminished rapidly when nicotinic acid was administered, thus suggesting that nicotinic acid decreases the production of the abnormal porphyrin. The urine from two pellagrins in relapse was tested by Vilter, Mathews and Spies and gave a negative test for nicotinic acid when the patient was restricted to a diet devoid of nicotinic acid. Within two hours after large amounts of nicotinic acid were administered by mouth, the urine became strongly positive.

"7. The maximal and minimal dosage of nicotinic acid for oral use has not been determined, but it appears from this study that 0.5 gm. daily, given in five doses of 100 mg. each, is safe and effective in the usual case of pellagra. It is likely that a smaller dose will be found to be effective. Likewise, the maximal and minimal dosages of nicotinic acid for parenteral injection have not been determined. It was found that from 50 to 80 mg. a day, in sterile physiologic solution of sodium chloride, was effective when injected intravenously. On several occasions hypodermoclysis of 100 mg. of nicotinic acid in 1 liter of sterile physiologic solution of sodium chloride, injected slowly, was effective also.

"8. These studies demonstrate that nicotinic acid is a potent therapeutic agent for treating the mucous membrane lesions of pellagra. The drug is cheap and easily administered. Further studies are indicated before it is safe to consider it as curative or preventive for the entire pellagra syndrome. It is recommended that all patients with pellagra be given a well balanced diet even when nicotinic acid is given as a supplement."

In collaboration with Dr. Yasuo Sasaki (Ph. D.) and Esther Gross (M. S.), Dr. Spies made a study of another phase of the pellagra problem, and their conclusions were incorporated in an article published in *The Southern Medical Journal* for May, 1938, under the title "A Note on the Relationship of Porphyrinuria to Human Pellagra." These studies revealed, he wrote,

that each of the twenty cases of pellagra excreted large amounts of porphyrin in the urine and that, in the sixteen cases in which a supplement of yeast, liver extract or nicotinic acid was administered, the porphyrinuria returned to normal within periods varying from one to six days. In the four cases in which a basic diet, without supplements, was given the porphyrinuria decreased slowly and returned to normal only at the end of four to six weeks.

"These studies show," he concluded, "that increased porphyrinuria is an integral part of the pellagra syndrome and its presence can be used as an early objective test."

It is believed that Dr. Spies and his associates have made notable contributions to both the diagnosis of pellagra by means of laboratory tests of patients' urine and the treatment of this disease by means of nicotinic acid. The results of his more recent experiments, and of those to be undertaken in future, will be awaited with much interest by the medical profession generally.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

JUNE 1938

Examinations for diphtheria bacilli & Vincent's	601
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	955
Typhoid cultures (blood, feces, urine)	1,253
Examinations for malaria	3,262
Examinations for intestinal parasites	2,380
Serologic tests for syphilis (blood and spinal fluid)	15,939
Darkfield examinations	39
Examinations for gonococci	1,667
Examinations for tubercle bacilli	1,520
Examinations for Negri bodies (microscopic)	146
Water analyses (bacteriologic)	967
Milk examinations	2,229
Pneumococcus typing	12
Miscellaneous	888
Total specimens	31,858

DIPHThERIA VIRULENCE TESTS

The term "virulent" is applied to diphtheria organisms if they possess the ability to produce an extracellular toxin. Avirulent diphtheria organisms are so-called because they lack the ability to produce an extracellular toxin. The clinical manifestations of diphtheria result from the growth

of the diphtheria bacillus (*Corynebacterium diphtheriae*) in or on the tissues of the host with the production of an extracellular toxin which is absorbed by the host.

Virulence tests are tests of the toxin-producing ability of diphtheria organisms isolated in the laboratory from cultures taken from the patient. These tests may be made by intradermal injection of a small amount of culture into a guinea pig. The results are read in terms of the skin reaction in 24 and 48 hours in the test pig, as compared with an identical injection on the same or on another guinea pig which was protected by diphtheria antitoxin.

Authorities are agreed that diphtheria virulence testing is reliably accomplished only when pure cultures are employed. The isolation of diphtheria bacilli in pure culture for virulence testing is a time-consuming procedure requiring special media and technic. These desiderata place the test beyond the scope of small public health laboratories. Consequently, in this State, all virulence tests requested in the future will be referred by the various branch laboratories to the Central Laboratory in Montgomery. Results will be reported from Montgomery to the physician, the County Health Officer and the forwarding laboratory upon completion of the examination (about 8 days after the receipt of the specimen). Since this test requires valuable time for its proper completion its use should be confined to determinations of virulence of organisms persistently present in the nose or throat of:

1. Release cases, *not less than three weeks after onset*, and after adequate local treatment fails to clear the nose and throat of diphthomorphic organisms as shown by repeated cultures during convalescence;
2. Contacts who fail to respond to local treatment; and
3. Carriers, detected in surveys, who fail to respond to local treatment.

C. B.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

TRIPLETS BORN PREMATURELY

The case of the two months old triplets born in Shelby County to a couple living within the lowest income group clearly demonstrates that the maternal welfare prob-

lem involves more than antenatal supervision. The mother had been under her doctor's supervision for several months.

Naturally the family expecting one baby was totally unprepared for three. To add to the difficulties which were already encountered, these triplets were born prematurely. Fully cognizant of the need for immediate nursing care the family physician called on the county health department for assistance and the nurse went to the home at once. Upon her arrival she found the babies scantily clad, lying in a trunk tray crib, with books, pictures and odds and ends for a mattress. Although it was May the babies were cold and decidedly cyanotic. The only room with a fireplace was promptly made into a nursery with a "No Visitors" sign on the door. The other three children were not allowed to go into the room and every precaution was taken to prevent infection. Bassinets, hot water bottles, clothing, bottles and nipples were placed at the nurse's disposal immediately by interested friends who had been contacted by the nurse after her appraisal of the situation.

Two civic clubs agreed to furnish a practical nurse for four weeks. The practical nurse, supervised by the family physician and county health nurse, took excellent care of the babies keeping them at the proper temperature, feeding them according to the doctor's instructions, protecting them from infection and giving them their daily olive oil bath. It was necessary to supplement the two hour nursing with a cow's milk formula. The paternal grandfather was persuaded to give a cow to his triplet grandchildren. The Welfare Department was able to give only the family commodities as the father had a three day a week job, and was not eligible for relief. The oldest child, a girl of eleven years of age, assumed the household responsibilities and the care of the two younger children, leaving the mother free to care for the three babies. In order to facilitate the care of the babies and the housework, as well as finding rest and recreation for the mother and older daughter, the county health nurse arranged and helped the family to carry out a schedule of daily routine.

At birth the babies weighed five, five and one-half, and five pounds respectively. At eight weeks they weighed eight pounds, three ounces; eight pounds fifteen ounces;

and seven pounds, two ounces—an average gain of three pounds apiece.

The prompt action of the physician in contacting the county health department, the county health nurse's grasp of the situation with the enlisting of welfare, lay and civic organizations, and their prompt response to the emergency, have without a doubt not only saved the lives of these triplets, but given them a good start in life.

Such prompt and splendid cooperation of the physician, the public health department, the lay and civic organizations should be an inspiration to all of us.

With this demonstration that cooperation can produce such excellent results as evidenced in the dramatic case of these triplets, what can we do if we apply this cooperation to other cases needing the assistance of the county health nurse in preparing for the new arrival? We gladly present this case for your careful study and consideration with the purpose of stimulating everyone to cooperate in the endeavor to improve maternal and child health.

E. F. D.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

TOXIC GASES AND FUMES IN INDUSTRY

In modern industry gases and fumes may be liberated in considerable quantities, either from raw materials or as by-products in the course of different processes or at times by the finished product. Due to the multiplicity of ways in which different volatile compounds are manufactured, blended or used, it is apparent that the risk of inhaling these substances has become increasingly extensive.

It is well recognized that a classification of gases from the chemical point of view does not provide a means of determining their harmful action on the system. For example, the gases hydrogen and nitrogen, quite different chemically, have identical physiologic actions, while other gases belonging to the same chemical group may produce radically different reactions. Furthermore it is neither necessary nor wise to employ the classifications commonly used in pharmacology as a basis for application to industrial hygiene.

Henderson and Haggard have suggested a very useful way by which these noxious agents may be grouped: "(1) Asphyxiants. (2) Irritants. (3) Volatile drugs and druglike substances. (4) Inorganic and organometallic substances."

Space will permit only a limited discussion of these groups.

1. *Asphyxiants*:—This group includes volatile substances which induce anoxemia or an equivalent condition in that they interfere with the supply or utilization of oxygen in the body. It is interesting to note that such gases bring about this result without any direct interference with the mechanics of respiration, nor do they cause direct injury to the lungs.

Of the asphyxiants there are two types, the simple and the chemical. The simple asphyxiants are gases which may be quite active chemically, but, from the physiologic point of view, are relatively inert. In this category we find such substances as nitrogen, hydrogen, helium, methane, ethane, acetylene and the like. They exert their action in the lungs by keeping oxygen from the blood.

The chemical asphyxiants are few in number; only two substances are commonly so classified: carbon monoxide and the cyanide compounds. Carbon monoxide is an asphyxiant through its property of combining with the hemoglobin of the blood to the exclusion of oxygen. Cyanides, on the other hand, act upon the tissues and temporarily deprive them of the capacity to utilize the oxygen which the blood brings to them.

2. *Irritants*:—This group constitutes a large number of the gases and vapors occurring in industry; it includes such common substances as acid fumes, ammonia, chlorine, formaldehyde, sulphur dioxide and many others. They differ widely in chemical and physical properties, but have the common property of inducing inflammation in tissues with which they come into direct contact. Due to their extremely irritating nature and the resulting inflammatory reaction set up, they are not usually absorbed into the blood in any considerable extent.

The wide variety of symptoms which result from the action of these irritant gases is to be explained not by any important difference in their toxic effects but rather an expression of the particular structure in

which inflammation is induced. For example, ammonia, hydrochloric acid, sulphuric acid and formaldehyde act primarily on the upper respiratory tract. In addition, sulphur dioxide, chlorine, bromine and hydrogen sulphide (also a general poison) not only act upon the upper respiratory tract but may also spread their action to deeper structures. Substances like nitrous fumes, ozone, phosgene and arsenic trichloride, on the other hand, act primarily on the lungs to produce pulmonary inflammation and edema.

3. *Volatile drugs and druglike substances*:—This group comprises a long list of volatile hydrocarbons and their compounds which are widely used in industry as solvents, degreasing agents, fuels, in the dye industry, and in many other ways. When breathed, they exert little or no specific effect upon the lungs but act after they have been taken up by the blood and carried to the tissues of the body—in large part, the nervous tissue and blood forming organs. Their chief action is essentially like that of the compounds used for surgical anesthesia.

Some of these anesthetic gases do not cause serious after effects unless, of course, a lethal amount is taken; such, for example, as nitrous oxide, some of the hydrocarbons of the fatty series, ethers, aldehydes, ketones and ethereal salts of organic acids. On the other hand, some of the halogen derivatives of the fatty hydrocarbons, such as chloroform and carbon tetrachloride, not only produce profound anesthetic effects but cause organic changes in the visceral organs. Other gases of this group, the benzene series, for example, cause severe damage to the blood forming organs, while some of the organic nitrogen compounds, like nitrobenzene, aniline and toluidine, convert oxyhemoglobin to methemoglobin, in addition to their anesthetic effect.

4. *Inorganic and organometallic gases*:—This category of volatile compounds comprises a few substances which carry in their formula certain protoplasmic poisons such as mercury, arsenic, phosphorus, lead, etc., in addition to the fumes which arise in the mining, smelting or refining of ores bearing these metals. They exercise little or no direct action on the lungs but their harmful effect is produced after absorption into the system.

PREVENTION

In order to prevent poisoning from these volatile compounds three requirements are essential: (1) The conditions under which each gas occurs must be known, and also the threshold limit of each gas. (2) This knowledge must be applied so that the threshold limit will not be exceeded in the workroom air and (3) if dissemination in the respired air cannot be controlled, those who are exposed must be supplied with apparatus to protect them against inhalation of the gas.

W. F. Q.

THE TREATMENT OF SYPHILIS

This subject has been discussed so often that to some physicians it may seem trite to discuss it again. On the other hand, observation of clinic operation leads the writer to feel that the question demands further consideration.

Before treatment is begun on any patient with syphilis the duration of the disease should be determined. Arbitrarily, syphilitic infections are divided into two great classifications, early syphilis and late syphilis, the latter including many cases of latent syphilis. Early syphilis is one which is four years or less in duration, whereas in late syphilis the disease has existed for more than four years. In the former class the patient is usually young and robust and a minimum of damage has been done by the spirochete. In the latter class the patient is four years or more older and there is much variation in the damage that has been wrought.

In early syphilis the attack by treatment is continued and forceful. In most instances standardization and routinization are applicable. The set outline of treatment, as supplied by this department, can be followed. The treatment of late syphilis cannot be so easily standardized. But one rule of thumb can be followed; namely, always give a preparatory course of treatment before attempting arsenical therapy. The more severe the late lesion, except central nervous system syphilis, the milder the preparatory treatment should be. If the involvement is moderate, this preparation consists of two to three months of bismuth therapy. But if the lesion is severe potassium iodide by mouth and mercury rubs should be given for a few months before attempting any bismuth treatment. This latter preparatory treatment should be given

to patients over sixty years of age if treatment is needed, and again excepting central nervous system. When in doubt as to the duration of the infection always play safe and prepare the patient with bismuth.

The early and late classification is equally applicable to congenital syphilis. Infection begins at birth and when the child passes the four year period he enters the late stage. Prenatal syphilis should be treated along the lines set forth in the treatment schedule for this stage of the disease. Of course, if the syphilis infection is late with marked damage and the woman presents herself early enough during pregnancy, a few weeks of preparatory treatment should be given. But when she presents herself late in pregnancy heroic measures must be taken in the attempt to prevent the birth of a syphilitic baby.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

PELLAGRA IN THE UNITED STATES

In the June, August and September 1937 issues of this Journal, there was published a series of articles on pellagra in Alabama. This disease is especially prevalent in the deep South, as the accompanying table and map show.

Alabama is practically in the center of the national pellagra area. During the three year period (1934-1936), South Carolina had the highest mean annual death rate (16.6 per 100,000 population); Georgia, second (12.1); Mississippi, third (11.8); North Carolina, fourth (11.4); Florida, fifth (11.2); Texas, sixth (10.6) and Alabama, seventh (10.3). Alabama was fifth highest in 1936, the latest year of record with a rate of 10.8 per 100,000 population.

MEAN ANNUAL NUMBER OF DEATHS AND DEATH RATES FROM PELLAGRA ACCORDING TO STATE, 1934-1936

State	Estimated Population in 1935*	Mean Number of Deaths 1934-1936	Mean Death Rate Per 100,000 Population 1934-1936
Total	126,927,000	3,622	2.8
Alabama	2,834,000	292	10.3
Arizona	406,000	3	0.7
Arkansas	1,999,000	196	9.8
California	5,997,000	75	1.2
Colorado	1,062,000	4	0.4
Connecticut	1,717,000	4	0.2
Delaware	256,000	1	0.4
Florida	1,614,000	180	11.2
Georgia	3,035,000	368	12.1
Idaho	479,000		
Illinois	7,817,000	19	0.2
Indiana	3,429,000	10	0.3
Iowa	2,534,000	1	±
Kansas	1,878,000	7	0.4

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

THE SCOPE OF PRESENT DAY SANITARY
ENGINEERING

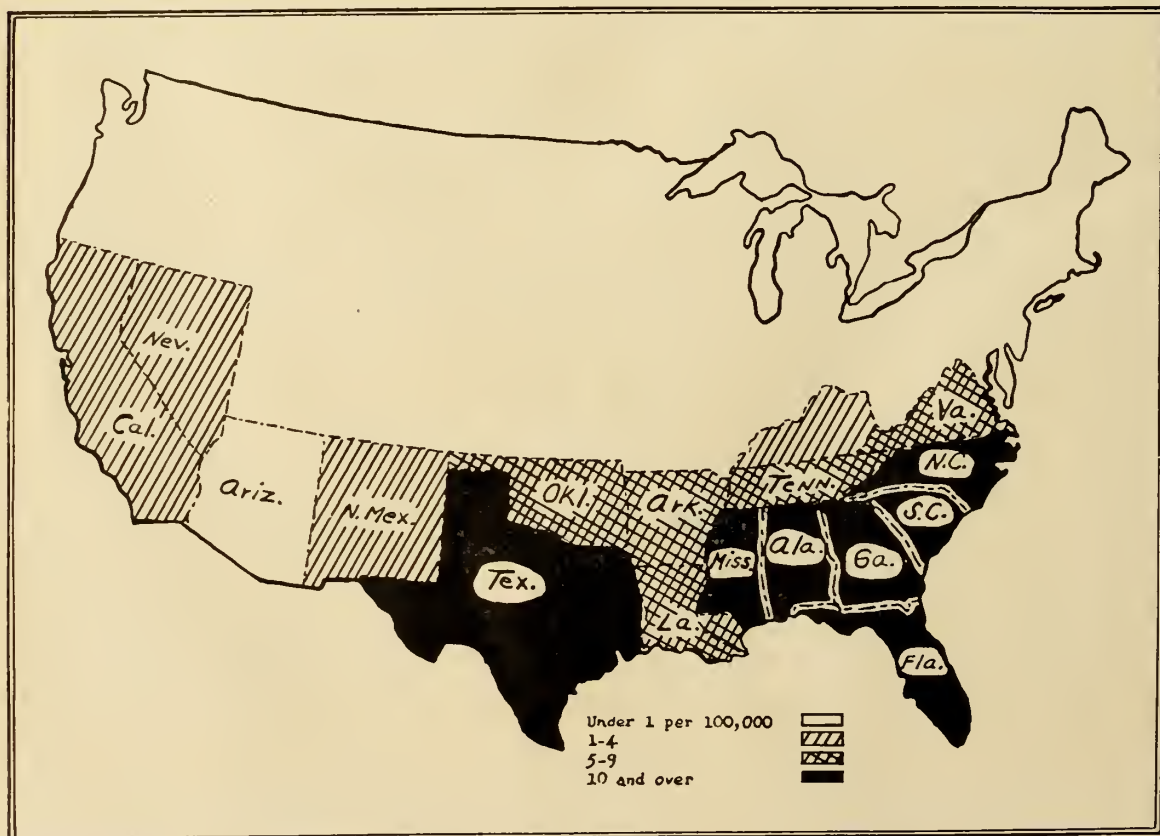
Excerpts from a brochure entitled "Sanitary Engineering as a Career," prepared by The Institute for Research, of Chicago, are given herein.

"Sanitary engineering has to do, among many other things, with applying the forces of nature in designing and building structures that will promote clean and healthful environment generally. One of its several functions is to control environment so as to prevent the cause of disease, to increase the length of life, and to make for happier and more pleasant living conditions. In times of a typhoid fever epidemic, the physician's job is to cure those who are sick; the sanitary engineer's job is to control the environment so as to prevent the recurrence of the disease. Hygiene has the purpose of preserving the health of the individual under the advice and care of the physician. Sanitary science devotes itself to protecting and preserving the health of the whole community through the mutual action of the physicians, civil authorities, and engineers. The sanitary engineer works in close cooperation with the government, the bacteriologist, the phy-

State	Estimated Population in 1935*	Mean Number of Deaths 1934-1936	Mean Death Rate Per 100,000 Population 1934-1936
Kentucky	2,846,000	74	2.6
Louisiana	2,120,000	130	6.1
Maine	845,000	3	0.4
Maryland	1,669,000	11	0.6
Massachusetts	4,375,000	15	0.3
Michigan	4,731,000	7	0.1
Minnesota	2,627,000	4	0.2
Mississippi	2,008,000	237	11.8
Missouri	3,913,000	24	0.6
Montana	531,000		
Nebraska	1,364,000	1	0.1
Nevada	99,000	1	1.0
New Hampshire	502,000	1	0.2
New Jersey	4,288,000	8	0.2
New Mexico	422,000	16	3.8
New York	12,890,000	27	0.2
North Carolina	3,417,000	391	11.4
North Dakota	700,000	1	0.1
Ohio	6,707,000	26	0.4
Oklahoma	2,509,000	136	5.4
Oregon	1,008,000	2	0.2
Pennsylvania	10,067,000	18	0.2
Rhode Island	681,000	1	0.1
South Carolina	1,840,000	305	16.6
South Dakota	692,000	1	0.1
Tennessee	2,824,000	229	8.1
Texas	6,077,000	644	10.6
Utah	515,000		
Vermont	377,000	1	0.3
Virginia	2,637,000	132	5.0
Washington	1,633,000	3	0.2
West Virginia	1,816,000	11	0.6
Wisconsin	2,908,000	2	0.1
Wyoming	232,000		

*From Special Reports of the U. S. Bureau of the Census, 1935.

†Less than one-tenth of 1 per 100,000 estimated population.



MEAN ANNUAL DEATH RATES FROM PELLAGRA, 1934-1936

sician, the agriculturalist, and the industrialist.

"Sanitary engineers are employed by: 1. Governmental agencies, including those of city, county, county district, state and federal. 2. Manufacturers or contractors engaged in the building of water and sewage plants or equipment therefor. 3. Private firms of consulting engineers. 4. Industries that have special problems of sanitation, particularly in waste disposal and water supply. Also the same industries—or others—that are concerned with the health conditions of their employees with especial reference to working conditions.

"While the Census Bureau of the United States does not have a separate classification for sanitary engineers, it is still possible to estimate the number engaged in the profession. The combined membership of the American Water Works Association, the Sewage Works Association, and the New England Water Works Association, allowing for duplication of membership, in round numbers is 4,700. To this number may be added another thousand representing young engineers who have not yet become members of these associations, bringing the estimated total of practicing engineers in the profession up to between 5,700 and 6,000.

"Present-day problems that come within the scope of modern sanitary engineering have been well enumerated by the Bureau of Sanitary Engineering of the Department of Health of Chicago, as follows:

"It was not so many years ago when people generally thought of the field of sanitary engineering as one limited to questions of water supplies, stream pollution, trade wastes, and the collection and disposal of garbage and sewage. Engineering methods have proved so successful that now they are being applied in many other lines of sanitation, and at present the sanitary engineer is called upon to deal also with pasteurization of milk; protection of oyster-growing areas; problems of housing, such as over-crowding, light, heat and ventilation; malaria control, plague eradication; destruction of vermin; industrial sanitation; smoke abatement; noise reduction; protection of swimming pools and bathing beaches; special hazards of comparatively recent importance, such as poisonings by refrigerants, chemicals used in fumigation, and by hair dyes, shoe dyes, moth-proofing compounds, and like products; and the abatement of nuisances of many kinds.'

"The conception of public health, therefore, has grown enormously beyond the traditional bounds of sanitary engineering. Yet every new activity listed above is included in sanitary engineering. After all, there is no fundamental difference between providing a city with a pure water supply and in seeing that its people get to breathe pure air in theaters and other places of public assembly.

"The growth of the public health movement in enlarging the field of sanitary engineering has resulted in considerable part from the activities of the public health worker, who, in many cases, has little knowledge of engineering practices—especially with reference to the details of design and plant construction. Since government has

entered largely into the regulation and control of health matters, it has, through its public health workers, added to its health activities the specialties that have been listed. Although most sanitary engineers still continue to identify themselves with water and sewage treatment, more and more of them have been drawn into the engineering aspects of public health work. For example, the public health worker endeavors to have provision made for the pasteurization of milk in all dairies supplying the city, but in so doing he is forced to call upon an engineer to perfect the equipment.

"Charles Gilman Hyde, Professor Sanitary Engineering of the University of California, has divided the sanitary engineer's work of environmental control, or sanitation, into ten groups of activities.

"1. The quantitative and qualitative control of the air supply.

"2. The quantitative, sanitary, and esthetic control of the water supply.

"3. The control of the milk supply; production, transportation, pasteurization, sale, and handling.

"4. The control of other food supplies; production, transportation, preservation, sale and handling of raw food products; canning; refrigeration.

"5. The control of liquid wastes; sewage, trade or industrial wastes; sewers, drains, and treatment plants, ultimate innocuous disposal.

"6. The control of solid wastes; collection, transportation, treatment, and disposal of municipal refuse, including garbage, rubbish, ashes, street sweepings, night soil, dead animals.

"7. The control of the animal and insect carriers of infection: rodents, dogs, goats, cattle, hogs, etc.; preventive and palliative measures against flies, mosquitoes, fleas, lice, ticks, etc.

"8. The provision of environmental cleanliness; street cleansing; dust, soot, and smoke control; swimming pool sanitation; street paving; camps and camp grounds.

"9. The provision of sanitary conditions in factories, shops, schools, churches, theatres, and houses.

"10. The control of nuisances and other unsatisfactory conditions including odors, obnoxious gases, excessive noise, and the like.'

"Traditionally the field of sanitary engineering has dealt with items 2, 5, in part with 6. But due to the pressure of governmental public health work, opportunities in the other classes of activities have developed. These occur largely in work carried on by the government, whether city, county, state, or federal, of an advisory, supervisory, regulatory, or administrative nature. A new term has been applied to sanitary engineers in this kind of government service; they are being called *Public Health Engineers*. Their work involves not only the fundamental principles of design, construction, and operation of plants and works, but also, and perhaps more particularly, the control of sanitation, making sanitary surveys, and establishing standards of quality in sanitation which sanitary works should attain and maintain. In fact, most public health engineers, as a matter of practicing policy, re-

view and approve designs for sanitary engineering works and, as a practical proposition, in a great many instances give general guidance in the determining of projects. They also give general advice in the operation of sanitary engineering works. They are charged not only with the detailed problems of performance, which is a highly specialized field, but also with establishing and regulating sanitary measures. Both classes of activity—the more inclusive and comprehensive work of the public health engineer and the more restricted work of the sanitary engineer as that work has commonly been practiced in the past—are within the field of sanitary engineering. If any distinction needs to be made, it is that public health engineering represents the broadest possible conception of the older and original term of sanitary engineering.

“Activities to improve the water supply and methods of disposal of sewage and garbage continue to increase and new problems constantly develop. There has been increasing competition among growing cities for an adequate water supply of satisfactory quality. Parallel to that are the often ineffective attempts to avoid overwhelming sewage pollution of our major streams. In 1930, the sewage of over 70 per cent of the urban population went untreated, but between 1930 and 1937 more plants were built for sewage treatment than in the previous 25 years. Most of the sewage treatment plants constructed in the United States during this period were completed largely as a result of financial assistance from the federal government. However, comparable progress was not made in the treatment of industrial wastes.

“Notwithstanding all that has been done, the problem of sewage and industrial waste treatment remains one of the most important problems confronting the people of the nation. It cannot be solved until the public is aware of the acute health and conservation hazards involved. The future offers many problems in that field for the sanitary engineer to solve. After the streams have been protected from the dumping of raw sewage and trade wastes, the next most important problem is the extraction of by-products from these wastes. In trade wastes, especially, the nitrogenous materials of the organic chemical industries may supply compounds of considerable value.

“The water supply problem is not as simple as it once was. The public no longer merely demands an adequate supply of water of sufficient hygienic purity. It demands a quality of water that not only has safety but also is cool and sparkling, with an absence of taste, odor, color, a freedom from corrosiveness, and a softness for both home and industrial use. Supplying a community with water of this type includes sanitation of the whole watershed involved. This may mean securing control, as far as sanitation is concerned, of territory a hundred or more miles away, as well as all intervening territory along the line of water supply that might in any way affect that supply.

“Looking ahead we can see what future developments may take place. Since we know what pure water is and how to get it, then bet-

ter methods, better control, and more economical procedure will be developed. It is likely that improved sterilizing methods may be discovered. The sanitary engineer is continually experimenting to solve these problems.

“There are a multitude of problems in sanitary engineering that call to a person for solution. These range from the hydraulic design of a sewer to research in endemic diseases and the removal of fluorine, the cause for the occurrence of mottled enamel in teeth of young people living in certain sections of the United States.

“The greatest source of satisfaction is in the realization that significant achievements have been made in benefiting human life. The advantage of which a sanitary engineer speaks most often is that he is identifying himself with the performance of decidedly worth while things. Not only are they worth while, but they are extremely fascinating to men with inquiring minds.

“The profession has its unpleasant aspects, and they must be recognized. A sanitary engineer in the employ of a public health agency is a public servant. His work and responsibility are not with individuals, such as is the work of a lawyer or a doctor, whose standing and fee charges are determined by his own reputation and the wealth of his clients. The engineer's performance in safeguarding the public health is accepted with no special gratitude. In time of flood or typhoid epidemic, or when the water has a bad taste, or odor, the public heaps upon the engineer many unwelcome attentions.

“The sanitary engineer today needs to have a thorough knowledge of the nature of the political and economic activities of his community and country, since much of his work will be done among government officials and through government procedures and routine. Further, his responsibility as a good citizen is sharply focused because of the highly social nature of his profession. His education and line of experience, therefore, should be finely balanced, so that he can meet people of all social levels on their own ground. The proportion should be well adjusted between pure science on the one hand and practical and commercial judgment on the other.”

A. N. B.

Early Syphilis—Success in tracing syphilitic infection to its specific source depends on conditions peculiar to venereal diseases. In non-venereal diseases, it may usually be taken for granted that the patient is willing to give information, but he is rarely able to identify a specific source because he himself usually has no way of knowing the exact time and place where the infection was contracted. Again, the patient is by no means the sole, nor even necessarily the most important source of information. Equally pertinent facts may be available from many other informants. In contrast to most other diseases, the circumstances under which genital syphilis is acquired, except among prostitutes and very promiscuous males, can usually be stated quite exactly by the infected person.—*Clark and Sargent, Am. J. Pub. Health, July '38.*

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA 1938			Estimated Expectancy June
	May	June	June
Typhoid	23	40	64
Typhus	16	23	23
Malaria	266	564	416
Smallpox	9	11	2
Measles	1226	458	178
Scarlet fever	24	23	31
Whooping cough	191	242	195
Diphtheria	32	25	37
Influenza	109	36	49
Mumps	81	50	59
Poliomyelitis	5	13	8
Encephalitis	4	4	2
Chickenpox	98	59	44
Tetanus	4	6	4
Tuberculosis	277	250	339
Pellagra	93	124	108
Meningitis	20	16	6
Pneumonia	239	149	117
Syphilis	1952	2081	230
Chancroid	8	8	6
Gonorrhea	264	305	201
Ophthalmia neonatorum	0	3	1
Trachoma	0	0	0
Tularemia	0	0	0
Undulant fever	4	5	5
Dengue	0	2	0
Amebic dysentery	1	2	0
Rabies—Human cases	0	1	0
Positive animal heads	69	68	—

*As reported by physicians and including deaths not reported as cases.
The Estimated Expectancy represents the median incidence of the past nine years.
With the venereal diseases, clinic cases were not included prior to 1936.

Book Abstracts and Reviews

J. B. Murphy, *Stormy Petrel of Surgery*. By Loyal Davis, M. D., M. S., Ph. D. Professor of Surgery and Chairman of the Division of Surgery in Northwestern University. New York: G. P. Putnam's Sons. 311 pages. \$3.00.

It is the great good fortune of some men to live at peace with their associates and to enjoy the sincere applause of their professional brethren, but such good fortune was denied John Benjamin Murphy. One need only read Dr. Davis' biography to realize how poignantly Dr. Murphy longed for the good will of his fellow-members of the healing art and the part it played in his work.

Here is an entertaining, if depressing, record of a life-long conflict between one of the greatest of surgeons and those who, under happier circumstances, would have been his closest personal and professional friends. That is the constantly recurring note. Fortunately, however, it is not the whole of Dr. Davis' book.

An intensely human narrative is told with the true story-teller's touch. It is the narrative of the love and marriage of J. B.'s parents, of their early struggle against poverty; of the lad's decision to become a doctor after a brief and not altogether congenial apprenticeship as a drug store assistant, of his student days at Rush Medical College, of his studies in Vienna and Heidelberg and other European medical centers, of his entry, by the marriage route, into one of Chicago's wealthiest families, of the birth and death of his children, of a wife's devotion, proving that wealth was no barrier to wifely loyalty, of honors in this country and abroad, of recurring periods of ill health that ended at last, on Friday,

August 11, 1916, in his death. But mainly of conflict and vituperation.

This man seemed to have a genius for becoming involved in important happenings and an even greater genius for getting "in Dutch" for alleged breaches of medical ethics as a result of his involvement. J. B. Murphy (the author almost never referred to him by the more dignified title of Dr. Murphy) received his baptism of fire in his endless warfare with his medical confreres as an aftermath of the Haymarket Square riot of 1886, when he was accused of charging exorbitant fees for those he treated. He faced another barrage of condemnation as a result of newspaper publicity—in The Chicago Tribune mainly—regarding his address as President of the American Medical Association, in which he spoke of his and his assistants' work with artificial pneumothorax in tuberculosis therapy and sent sensation-seeking reporters and headline writers on a veritable jamboree of exploitation. When Theodore Roosevelt's yen for a third term aroused the antagonism of a would-be assassin and the latter shot the ex-President in the chest on the eve of a Milwaukee mass meeting in 1912, T. R. named Dr. Murphy as his sole physician and asked to be taken to the Chicago hospital with which he was associated. Then the question of medical ethics and stealing a famous patient again arose, and the missiles of criticism were rained upon him in full fury. And less than three years before he collapsed at Mrs. Murphy's feet while trying to walk from his room to hers and died from a complication of illnesses, he was charged with violating every code of decency by advocating a city ordinance requiring those suffering from venereal diseases to register with the health department and undergo quarantine. (How times have changed! And also ideas about what is decent.) In between these major engagements he was subjected to almost endless but less violent shelling from his opponents' camp, being accused of such breaches of medical faith as exorbitant charges, personal exploitation, using his official position to advertise his professional achievements, giving the public an incorrect impression of his success as a surgeon by telling of the operations that succeeded and neglecting to mention those that failed, etc., etc., etc. Enemy sharpshooters even fired away at what they pretended to consider the serious crime of getting into top-notch Chicago society. The fact that he made his first million dollars and was well on his way toward his second million while still a comparatively young man was held against him. In fact, practically everything he did outside the threshold of his own home seemed to attract shafts of criticism.

The author writes as an avowed and unashamed champion of the bewhiskered J. B. But he tries to be fair to his subject's critics as well as to his subject himself. He relates the charges and then tells what J. B. did to refute them, if anything. If J. B. maintained a dignified silence, as he usually did, then Dr. Davis shoulders the burden of defense. But, defender though he is, he is not a blind worshipper. He admits that a great surgeon can have serious personal weaknesses, that even the great J. B. Murphy could

be vain and overbearing and unwilling to give others their share of credit. He even admits that his hero loved publicity and did not hesitate to make a bid for it. It was J. B.'s great misfortune that practically every one of these bids furnished ammunition to his enemies.

Like most controversial questions, this one will never be settled definitely one way or the other. Whether J. B. Murphy received more censure than he deserved, or deserved more than he received (if that is possible) no one can say. An unbiased reader of this slightly biased book, however, reaches this conclusion: that Dr. J. B. Murphy managed early in his career to get in Dutch with his professional fellows and added to their dislike at frequent intervals throughout his professional life, and that, because of their dislike, they were hardly in a position to be fair to him. One reads the book and then one thinks of the unhappy Dr. Fell:

I do not like thee, Dr. Fell.
The reason why I cannot tell.
But this I know, I know full well:
I do not like thee, Dr. Fell.

As one reads what Dr. Davis has written, one also thinks of the great debt which modern surgery and millions of his beneficiaries owe to this man who is best known as a storm center. When one reads of his work as one of the very first to perform appendicitis operations, as the inventor of the Murphy button, as a pioneer in abdominal surgery, as a trail-blazer in the now universally successful surgical treatment of tuberculosis, and as a leader in many other fields, one is inclined to forgive him for his genius for making enemies.

J. M. G.

The 1937 Year Book of Obstetrics and Gynecology. Edited by Joseph B. DeLee, A. M., M. D., Professor of Obstetrics, University of Chicago Medical School; Chief of Obstetrics, Chicago Lying-In Hospital and Dispensary, in Affiliation with the University of Chicago; and J. P. Greenhill, B. S., M. D., F. A. C. S., Professor of Obstetrics and Gynecology, Loyola University Medical School; Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital. The Year Book Publishers, Chicago. 1938. 704 pages, Cloth. Price, \$2.50.

Every year finds an increasing amount of medical literature published making it more and more difficult for the busy practitioner to keep abreast of the times even when he tries to read journal articles which are along the line of his greatest interest. Oftentimes the physician is interested in knowing what the latest ideas are concerning certain subjects but there may not be a library nearby. The authors of the Year Book have anticipated such a situation and in this collection of abstracts have placed in the hands of physicians a wealth of material from the American and foreign journals.

The table of contents divides the subject matter into its general divisions while the index is sufficiently complete to allow for finding detailed information quickly. The personal comments of the authors are instructive as well as entertaining, adding much of value to the articles.

Terminology of endocrinology in the past has been complicated by the abundance of new products and the literature. Explanations of the

newer terms, as fixed by the Second International Commission for Standardizing Sex Hormones, at London, is a valuable contribution to the Year Book with it accompanying charts of the source and action of the hormones.

Physicians will find the Year Book a mine of information to which they can refer from year to year. It is not a book to be read at one or two sittings but rather one which can be referred to and kept close at hand, and read in the in-between-times of the day's work.

E. F. D.

Maternal Deaths—The Ways to Prevent. By Iago Galdston, M. D., Secretary, Medical Information Bureau of the New York Academy of Medicine. Cloth. Price 75c. 115 pages. New York: The Commonwealth Fund, 1938.

Dr. Galdston has gathered his facts from several authenticated studies and presents the problem of maternal welfare in a way which can be grasped easily by laymen and health workers. The problem is presented from all points of view giving a fair picture of the responsibility of the physician, the individual and the community.

The maternal mortality rate of the United States is higher than the rates of other countries. This has been explained by some as due to the difference in method of assigning of maternal deaths. The author shows that even when the method of assignment of death of each country is used as a basis for determining the rate of the maternal mortality for the United States that the mortality rate of the United States remains higher than that of any other country except Scotland.

The author discusses the complexity of factors involved in the prevention of certain maternal deaths as a result of the "if" problems which involve the "elements of economic status, education, professional skill, professional honor, competence in judgment, competence in performance," as well as the heedlessness of ignorance and misunderstanding. He points out that education is one of the most essential factors in any program for the reduction of our maternal mortality. This educational program should include in its scope the public officials and legislators as well as the lay public. That there is a need for more graduate schools for training of obstetricians has long been recognized by physicians.

Women and men of our country need to know what constitutes adequate prenatal supervision in order to get better cooperation of the patient and the family, for 40% of the preventable deaths, in the New York Survey, were due to lack of cooperation on the part of the patient.

The chapter on antepartum care gives a very concise outline of the essentials but one wonders why the author has made no mention of the sudden increase in weight which is considered by most obstetricians to be one of the earliest signs of impending toxemia.

Some health workers and physicians will disagree with the licensing and training of midwives but the Frontier Nursing Service of Kentucky is given as an example of what trained midwives can do.

He condemns wholeheartedly the "meddlesome midwifery" of operative procedures, unnecessary

forceps, and cesarean sections. The Philadelphia survey showed that on private floor service the operative incidence was 50% while on ward service in the same hospital it was only 4%. The results did not indicate that the ward patients were neglected. Again the author places the blame on all concerned rather than on one group. "Unquestionably an excessive amount of instrumentation is resorted to in compliance with the patient's insistence on a short labor. To have the obstetrician 'take the baby' is to many tantamount to humane, considerate, and kindly obstetrics."

Fearlessly the author attacks the subject of anesthesia and analgesia urging that the public realize that, while painless labor is desirable, it is not desirable at the expense of the welfare and life of mother or child. "It is not analgesia or anesthesia as such which the profession oppose; it is rather the unskilled and unproper and all too wide use of such methods." Here again the blame is placed on both the public and the physician.

Abortions are considered as the unknown quantity and the author feels that the problem is not purely or even essentially a medical one. "On the contrary, the social, legal, ethical and religious approaches to the problem are more important than the medical."

The suggestions for the reduction of the maternal mortality rate should be studied by all interested in this problem. *Maternal Deaths—The Ways to Prevention* was written primarily for those who are not doctors of medicine, yet physicians will find much of value in it. Those interested in the maternal welfare problem will not want to miss reading it and those not interested in this problem will find their interest kindled after perusing its pages. E. F. D.

The Romance of Proctology. By Charles Elton Blanchard, M. D. 280 pages, 11 portraits, 7 illustrations and an armamentarium. Medical Success Press, Youngstown, Ohio. 1938. Cloth. Price, \$4.50 net.

It seems obvious that Doctor Blanchard's aim in writing this book is to espouse the cause of the so-called "Ambulant Proctologist." Although a good deal of proctologic work can be done in the office, it is agreed generally that surgery, even as practiced by the "Ambulant Proctologist," is best handled under institutional care.

Much space has been devoted to tracing the evolution of the injection treatment for hemorrhoids and this constitutes the most interesting portion of the work. The development of surgical methods, employed by the leading proctologists of today, has received scant, if any, attention.

The first 74 pages are devoted to a few great names in medical history, such as Hippocrates, Galen, Pasteur, Hunter and the like. While these men deserve all our respect, they add little to the story of proctology except in a very general way. The next 105 pages deal with the development of ambulant methods. The remainder of the volume is concerned with the current methods and opinions of the author and his colleagues. An armamentarium of 14 pages is appended.

J. W. D.

Diseases of the Skin for Practitioners and Students. By George Clinton Andrews, A. B., M. D., Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University; Chief of Clinic, Department of Dermatology, Vanderbilt Clinic; Fellow of the American Medical Association, of the American College of Physicians and of the New York Academy of Medicine. Second edition, entirely reset. 899 pages with 938 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$10.00 net.

The material that forms the basis for Andrew's book on diseases of the skin comes from the skin clinic of the College of Physicians and Surgeons of Columbia University and from the tremendous dermatologic service of Vanderbilt Clinic. The chapters are divided according to a classification of skin diseases originated by the author which seems more logical and workable than the classifications usually found in text-books dealing with this subject. Of particular value to the practitioner of medicine is his list of diseases causing lesions in various parts of the body. In the study of the causes of dermatitis, the practitioner will derive much help from the list of eczematogenous substances encountered in various industries, of the drugs causing skin rashes and of the foods responsible for allergic dermatitis. For the average general practitioner the book is a little too long and too detailed but, because of its excellent illustrations and completeness of text, it is an outstanding volume for dermatologists.

The new second edition includes descriptions of seventy-five diseases not included in the first book. Entire new chapters have been added to cover the subjects of dermatosis due to filtrable viruses, skin manifestations of vitamin deficiencies and cutaneous manifestations of disturbance of metabolism. The chapters dealing with roentgen rays, syphilis, eczema, lichen planus, fungus diseases and tropical diseases have been completely rewritten. Many new prescriptions have been added. Over two hundred new photographs and forty new histologic drawings add much to the clearness of the text. Obsolete methods have been replaced by newer methods.

C. K. W.

The American Illustrated Medical Dictionary: A complete dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, A. M., M. D., F. A. C. S., Lieut. Col., M. R. C., U. S. Army; Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; Editor of the "American Pocket Medical Dictionary." With the Collaboration of E. C. L. Miller, M. D., Medical College of Virginia. Eighteenth edition, revised and enlarged. 1,607 pages with 942 illustrations, including 283 portraits. Flexible and stiff binding. Philadelphia and London: W. B. Saunders Company, 1938. Plain, \$7.00 net. Thumb indexed, \$7.50 net.

The American Illustrated Medical Dictionary is the outstanding medical dictionary in the English language. Not only does it include practically every medical term in the English language but the definitions of these terms are extremely clear and brief. Its limp leather binding and thin paper make it a convenient volume to handle despite its large size. Rapid advances in medical science carries with it the coining of many new terms so that in the three years since the previous edition over three thousand new words have seemed important enough for inclusion in the new dictionary. These additional terms have

necessitated an increase in size of some thirty pages.

Attention is called to the fact that the dictionary may be bought with stiff binding if preferred and with or without the thumb index. The convenience of a thumb index in using a dictionary is well worth the slight additional cost.

C. K. W.

Men Past Forty. By A. F. Niemoeller, A. B., M. A., B. S., Author of *Encyclopedia of Sex*, etc. With a foreword by Winnifred Scott Pugh, B. S., M. D. Harvest House, New York, N. Y. 1938. Cloth. 154 pages. Price \$2.00.

The reviewer is a little skeptical of all books on medical subjects written by non-medical authors and especially so when the book is written primarily for the guidance of the patient. Despite this prejudice he finds in "Men Past Forty" a great deal of information that is of value for the patient suffering from impotence. Certainly the book offers a great deal of hope for the man whose virility is waning and it makes a sincere effort to direct him away from quacks and patent medicines and lead him into the hands of those who should be in a position to help him. The physician himself will probably learn nothing new from this booklet and it is probable that he will find many statements whose scientific accuracy he doubts. Certainly the physician will find objectionable the list of aphrodisiacs and endocrine preparations which the author recommends as worthy of trial. The chief value of this book to the physician is its use as a primer for instruction of his patients, whose understanding and cooperation are essential if cure is to be obtained.

C. K. W.

Hemorrhoids. By Marion C. Pruitt, M. D., L. R. C. P. (Ed.), F. A. C. S., President, American Proctologic Society; Associate in Surgery, Emory University School of Medicine; Proctologist, Grady Hospital, Crawford W. Long Memorial Hospital, Georgia Baptist Hospital and Atlanta Antituberculosis Association; formerly Resident Surgeon, Westminster Hospital, London, England, Lieutenant, Temporary and Honorary Commission, R. A. M. C., Major, U. S. M. C. The C. V. Mosby Company, St. Louis, Mo. 1938. Cloth. 170 pages, 73 illustrations. Price \$4.00.

Marion C. Pruitt who practices proctology in Atlanta, Georgia has written a very excellent monograph on the subject of a disease that is encountered by every physician—hemorrhoids. An excellent chapter on the anatomy of the normal anal region and the pathology of hemorrhoids precedes a description of symptoms, diagnosis, complications and treatment. Doctor Pruitt is very conservative in his recommendations for treatment and always gives preference to the simpler and less dangerous forms of therapy. For the symptomless connective tissue external hemorrhoids he advises no treatment at all. For the acutely inflamed hemorrhoid he advises local applications of hot or cold water or mildly antiseptic ointments. For uncomplicated internal hemorrhoids he recommends treatment by injection, using either a phenol solution or the quinine and urea hydrochloride method popularized by Terrell. Thrombosed external hemorrhoids are treated by evacuation of the clot. Operation is recommended only for large external

hemorrhoids or complicated internal hemorrhoids. Operative technique is presented in detail. Numerous illustrations make clear the descriptions in the text.

C. K. W.

Medical State Board Questions and Answers. By R. Max Goepp, M. D., formerly Professor of Clinical Medicine in the Graduate School of Medicine, University of Pennsylvania; formerly Assistant Professor of Clinical Medicine, Jefferson Medical College; formerly Assistant Visiting Physician, Philadelphia General Hospital; formerly Professor of Medicine, Woman's Medical College of Pennsylvania. Seventh edition, revised. 664 pages. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$5.50 net.

Any one preparing to take state board examinations for license to practice medicine should do his cramming with the latest edition of "Goepp's Medical State Board Questions and Answers." It has been nine years since the previous edition was published and it would be advisable for any one planning to use the book to use the new edition. A large amount of new material has been included in the seventh edition. The following list includes a few of the new topics—electrocardiographic interpretation, the typing of pneumococci and serum therapy in the treatment of pneumonia, recent advances in the treatment of diabetes and the anemias, treatment of peripheral vascular diseases, the therapeutic application of the newer knowledge of vitamins and the use of the newer endocrine preparations. The B. N. A. terminology has been adopted in this issue, but for the convenience of those who are not yet accustomed to it the old terminology has been included in parentheses.

Though this volume is intended for those primarily planning to take state board examinations, it may be used as an excellent guide for teachers or for those of us who may want to review some particular field of medicine.

C. K. W.

A Textbook of Gynecology. By Arthur Hale Curtis, M. D., Professor and Chairman of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Chief of the Gynecologic Service, Passavant Memorial Hospital, Chicago, Illinois. Third edition, reset. 603 pages with 318 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$7.00 net.

In the former editions of Curtis' Textbook of Gynecology, only clinical material was presented. The practising physician probably had no need for descriptions of anatomy, physiology and embryology. If the book was to be used in teaching in medical schools, the absence of this material would prove a handicap. In this third edition the author has therefore added sections dealing with anatomy, embryology and physiology, presented purely from the gynecologic point of view. Much of the anatomic studies and all of the anatomic illustrations are original. The section on physiology seems quite inadequate.

In the revision of the remainder of the text, the author has continued to present a conservative attitude so far as operation is concerned. His chapters have been kept brief and his method of presentation is practical. When methods of treatment are described indications are given

in detail. The excellent illustrations of pathologic conditions and operative procedures have been retained and new illustrations have been added. There are new sections dealing with the periods of a woman's life, the endocrine glands, menstruation, cyclic changes in the ovaries and other genitalia, and endocrinopathic disturbances of the genital functions.

Whenever the reviewer reads a textbook of gynecology he cannot help but wonder why no one has dared to discuss in a scientific way some of the important functions of normal sex-life—the problems of adolescence, premarital instructions, the physiology of coitus, maladjustment and frigidity, contraception, emotional disturbances accompanying menstruation and the menopause, physical, psychic and sexual adjustments in senility, and the effects of various operative procedures on the sex life of the patient. It is difficult to see how these important subjects can be divorced from the work of gynecologists and it is inconceivable to think that, if this material is left out of textbooks, the medical student will be able to pick it up in the hospital or in private practice. If the reviewer were teaching gynecology he would consider it more important to teach his students how to solve the every-day problems of his patients than to know how to do a radical hysterectomy or repair a third degree laceration.

C. K. W.

Tuberculosis and Leprosy, the Mycobacterial Diseases. Includes papers presented at Denver in June 1937 at the seventh symposium organized by the Section on Medical Sciences of the American Association for the Advancement of Science. The contributors consist of a list of men and two women known both nationally and internationally as authorities in their field. The Science Press Printing Company, publishers. Lancaster, Pa., 1938. 133 pages. Cloth.

To see and hear the personalities that are located in the zenith of their particular field of scientific endeavour is a privilege and an education, but the alternative for most of us who are unable to attend a great assembly of the first magnitude such as this is to avail ourselves of this second line of consolation, the printed symposium.

It is a comprehensive assembly of papers which at the conclusion form an integral whole. It is a collection of 133 pages with men and women who have been places and done things in a big way and are advancing the horizon of human knowledge in the field of microscopy, often the first line of attack for the eradication of human as well as animal diseases.

A summary and unification of the whole is rendered by that well known authority and scientist, Dr. Esmond R. Long, of Philadelphia, who has not failed to infiltrate a little of the history and romance accompanying these invasions into heretofore unknown fields.

H. T.

Sane Sex Life. By Dr. H. W. Long, Eugenics Publishing Company, New York City, N. Y. Cloth. Price \$5.00.

Just as the hypodermic syringe and morphine are to be used with the utmost caution by the practitioner, so is he expected to make use of

"Sane Sex Life" by Dr. H. W. Long. The author makes this clear in the introductory chapters and points out that it is designed as a "prescription" to be used by the discriminating physician to remedy existing marital difficulties or maladjustments or to ward these off in the case of those about to enter or who have but recently entered the matrimonial state. The book distinctly has no place in the hands of the adolescent, the curious or the carnal minded. It is presented to the medical profession as the result of years of experience in attempting to guide and adjust many unhappy unions threatened with disaster, because of sex ignorance and a proper appreciation of the physical, as well as the psychic, factors of the married state. Based upon this large experience, the author has felt constrained to deal, in minutest detail, with the mechanics of the physical act itself, in order that some of the domestic catastrophes flowing from this source might be scotched. This book, applied to certain cases carefully studied by the medical adviser, and with "the proper mental attitude" on the part of the patient, which the author so strongly recommends, may do good.

J. N. B.

A B C of the Vitamins. By Jennie Gregory, M. S. The Williams and Wilkins Company, Baltimore, Maryland, 1938. Price \$3.00.

When attempting to understand or explain those fanciful substances, the vitamins, nothing could be more welcomed than the currently much used visual aids. The story of each vitamin, including the history, geographic distribution of vitamin deficiencies, results of deficiencies, physiologic functions of, human requirements of, distribution in foods, and clinical and laboratory methods for vitamin research, is presented diagrammatically and pictorially in this book. The data given are timely and the pictures and diagrams are simple and readily understandable. The nature of presentation of the material obviously necessitates exclusion of details. However, for the lay person or scientific student who wishes accurate knowledge concerning the vitamins without detailed reading, this book should prove very useful. At the end of the book is a list of seventy-four references which would be helpful to those wishing additional information.

M. W. B.

Feeding Behavior of Infants. By Arnold Gesell, Ph. D., M. D., Sc. D., Professor of Child Hygiene and Director of the Yale Clinic of Child Development, the School of Medicine, Yale University; and Frances L. Ilg, M. D., formerly Pediatric Research Assistant in the Yale Clinic of Child Development. 201 pages. Philadelphia, London, and Montreal: J. B. Lippincott Company, 1937. Cloth. Price \$4.50.

This volume very appropriately termed by the authors "a pediatric approach to the mental hygiene of early life" throws new light on the regulation of infant feeding and offers the first systematic account of the growth of feeding behavior from birth through the first years of life. It deals with problems of individual diagnosis and preventive supervision which concerns pediatricians and public health nurses.

The authors have devoted years to research and studies of the home life of infants recording every detail of their behavior by means of cinema and written records of actual cases.

While Part One of the volume, entitled "The Behavior Aspect of Nutrition" and dealing with the most minute details of infant behavior patterns and the motor mechanisms of feeding, might prove a bit wearisome to the casual reader, one's appreciation and understanding of the need for these details gain momentum as he progresses through the book and culminates in apologetic respect for the author's ability before the book is completed.

The keynote throughout the book is individualization of infant feeding, whether it be breast, bottle, spoon or cup, decrying the many attempts to routinize the sleeping, feeding and general behavior schedules of all babies.

Part Three, entitled "The Regulation of Feeding Behavior," offers a summation of observations made in the previous chapters and rewards the reader with many suggestions which will prove valuable in daily practice. For instance, the suggestion is made, in breast feeding, to have the mother offer both breasts during each feeding, on the grounds that caking is less likely to occur; also that an infant who spends a very long time at one breast and shows some signs of satiety will suckle with renewed vigor, and develop a better and more complete satiety response, when he is offered a second breast in a supplementary way near the end of the meal.

This volume is recommended to be read by physicians and nurses who are interested in the mental hygiene of infants and who wish to read the "last word" in "Feeding Behavior of Infants."

J. J. R.

A Manual of Tuberculosis for Nurses and Public Health Workers. By E. Ashworth Underwood, M. A., B. Sc., M. D., D. P. H. (U. Glas.); Medical Officer of Health, County Borough of West Ham; Lecturer in Public Health Law and Administration, Battersea Polytechnic; Fellow of the Royal Statistical Society. Second edition, revised and enlarged. 404 pages. William Wood and Company, publishers. Baltimore, 1937. Cloth, \$3.25 net.

Just as the ignorance of the general public is so appallingly medieval in respect to their knowledge of tuberculosis, so is it a reflection on the utterly inadequate training of our nursing schools. Possibly if one were to follow the lineage of responsibility back it might eventually rest in the lap of the State Board of Registration of Nurses or the members of that board for the requirements or lack of requirements laid down in their schedule for a nurse's course.

This little \$3.25 book gives much valuable information between its approximately 400 small pages. It renders both scientific and ethical as well as anatomic considerations. It portrays in a very comprehensive way so much practical material never taught and many times, I fear, never known by the instructors in nurses' training schools.

Therefore, it would behoove many to use it as a self enlightening as well as a directing, organizing, and outlining factor in teaching their courses on tuberculosis.

Furthermore, it is the production by an author from a country where tuberculosis is rife, where much is known about it, and, in spite of this, it is paradoxical that little is done for it from a public health point of view.

In conclusion, I wish this book might be placed in the curriculum of each nurses' training school in this state.

H. T.

Surgical Diseases of the Mouth and Jaw. By Earl Calvin Padgett, B. S., M. D., F. A. C. S., Associate Professor of Clinical Surgery, University of Kansas School of Medicine, Kansas City, Kansas; Associate Professor of Oral Surgery, Kansas City Western Dental College, Kansas City, Missouri. 807 pages with 334 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$10.00 net.

The field of oral surgery should be of interest to both physician and dentist. The general practitioner is frequently the first one to see disease conditions of the mouth and should know what can be done to relieve them even if he is unable to carry out the procedures himself. The physician must generally rely upon the dentist to locate the focus of infection in the mouth and eradicate it. The roentgenologist is interested in the oral cavity, not only because of the need for x-rays of the teeth and jaws but also because he is called upon to treat cancer of the lip, mouth and tongue. The teeth frequently impinge upon the field of the rhinologist; as, for example, when an antral infection follows an abscess in a tooth. Injuries which involve the face frequently extend into the mouth and the traumatic and plastic surgeon must be familiar with oral surgery.

In his book on "Surgical Diseases of the Mouth and Jaw," Padgett has included not merely a description of the diseases of the teeth, gums and tongue but, in addition, those of the nose and pharynx, the deformities of the lips, plastic operations on various parts of the face, common diseases of the neck, diseases of the salivary glands, benign and malignant tumors of the mouth, face and neck; radical operations for malignancy, radiation therapy, and prosthetic methods for restoring deformities of the teeth or face. Though the field is large, it has been covered thoroughly and in a manner that should appeal equally to the doctor interested in diagnosis, the surgeon interested in operations or the dentist with an interest primarily focused on the teeth and gums. The book fills a very definite need in the library of the general practitioner.

C. K. W.

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BRUCELLOSIS* (UNDULANT FEVER)

A PUBLIC HEALTH PROBLEM

By
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Brucellosis is the name now applied to the disease which was formerly known under various names, most commonly Malta fever, or undulant fever. There is no specific cure of proved efficacy for brucellosis. Hence it should be avoided if possible. To avoid it necessitates a knowledge of how it may be contracted.

Brucellosis is caused by infection with a specific bacterium of the genus *Brucella*. These bacteria may infect various kinds of domestic animals as well as man. In this country, cattle, hogs and goats are of importance in transmitting the disease to man.

The disease is prevalent in cattle everywhere, though it is more common in some localities than in others. In infected herds the percentages vary from 10 to 30 per cent, with an average of about 14 per cent of infected animals.

On the other hand, the danger of contracting brucellosis from hogs and goats differs greatly in different sections of the country. The disease in hogs is not evenly distributed. In the middle western states, it is common, whereas in certain other sections of the country the hogs are almost or quite free from it. The danger of contracting the disease from goats is greatest in the Southwest because there the goat raising industry is extensive. In certain other sections of the country, there are few goats.

The farmers and veterinarians who handle infected animals, and the slaughterhouse workers who handle infected carcasses, may become infected through the

skin, particularly through abraded skin. According to our present knowledge, the only way to prevent infections in these occupational groups is by the control of disease in domestic animals. The United States Department of Agriculture is carrying on an extensive campaign to eradicate the disease from cattle. As yet, there is no similar campaign to control the disease in goats and hogs.

There are several varieties of the infecting organism. In this country there are three important varieties, each with a special affinity for one of the three species of animals concerned in transmitting the disease to man. All three varieties may infect man, but the variety which most commonly infects cattle is less virulent for man than are the varieties which infect goats and hogs. The situation is complicated, however, because in localities where cattle are associated with infected goats or hogs, they may become infected with the caprine or porcine variety of the causal organism, and transmit it to man with all of its original virulence.

The nature and the duration of brucellosis are extremely variable,—from a mild ambulatory disease to severe illness; and from a few days to many years. A mild attack may be regarded as influenza, or pass without any attempt at diagnosis. If the disease is more severe, the original diagnosis may be tuberculosis, typhoid fever, malaria or rheumatism, according to which of those diseases it resembles most closely, for the manifestations of *Brucella* infection are protean, and correct diagnosis is difficult, even in acute cases. If the illness is prolonged, eventually other diseases are ruled out, and the correct diagnosis may be arrived at with the aid of serologic tests, a skin test, or, best of all, by the cultivation of the organism from the blood or excretions.

In chronic cases the laboratory tests may fail to show evidence of disease through

*Abstract of paper read before the Association in annual session, Mobile, April 20, 1938.

long periods of ill health. A characteristic feature of chronic brucellosis is that the patient suffers with a great variety of aches and pains although he appears healthy. In many cases a diagnosis of neurasthenia may be given, for the symptoms of chronic brucellosis may agree with the textbook definitions of neurasthenia—exhaustion, insomnia, irritability and complaints of aches and pains for which no objective signs can be found.

It is difficult to estimate the incidence of brucellosis. In 1936 about 2,000 cases were reported in the United States. We do not know what percentage of the total number of acute cases the reported cases represent. The data on which the number of chronic cases in this country might be estimated are very meagre. We only know that the chronic disease rarely receives the correct diagnosis. Cases of ill health due to *Brucella* infection prolonged over twenty or more years have only recently received the correct diagnosis.

The majority of people have no direct contact with *Brucella* infected animals. For them brucellosis is a preventable disease. If all milk were efficiently pasteurized or boiled before being consumed, there would be no brucellosis excepting in those occupational groups whose work brings them into contact with infected animals or infected carcasses.

EARLY SURGICAL INTERVENTION IN ACUTE CHOLECYSTITIS*

By
R. A. HAMRICK, M. D.
Birmingham, Ala.

During the past decade there has been an increasing tendency to submit patients with acute cholecystitis to early surgical intervention. The rationale of this therapy is based on a more accurate appreciation of serious complications, which may arise from acute gallbladder lesions, by carrying through a watchful waiting policy, and which may, or may not, be fully estimated under close clinical observation. Increasing statistical data reveal that such surgical procedure is not only practical, and productive of excellent results, but is attended with

a reasonably low mortality rate. There is a recognized need for reducing the mortality of complications associated with acute cholecystic disease. Heuer and others believe that the conservative type of therapy possibly is being overdone, and is a real factor in enhancing some of the more serious complications. One substantial basis for early surgical intervention is the high percentage of gangrene and perforation which complicates acute cholecystitis. From statistics, more recently published by different surgeons, the average incidence of gangrene, empyema, or perforation found with acute gallbladder lesions appears to be in the neighborhood of 20% to 25%, or one in every four or five cases of acute cholecystitis. This is a much higher occurrence than textbooks would lead one to believe. Estes estimates acute gangrenous cholecystitis will be found in one to two-fifths of all acute gallbladder lesions. Heuer finds gangrene and perforation in 20% of the cases of acute gallbladder disease, and the mortality from these two conditions alone represents 10% to 20% of the total mortality in non-cancerous disease of the gallbladder and biliary ducts.

Along with the relatively high incidence of gangrene associated with this acute gallbladder condition, there has been observed repeatedly by numerous surgeons a perplexing variance from the clinical picture by the actual pathology found at operation. All too often, it is impossible to determine the exact nature and extent of the inflammatory lesion in the gallbladder by the clinical findings. Marion K. Smith amply established, in his series of acute gallbladder lesions, that extra-vesicular abscess, empyema and gangrene may be present in spite of normal temperature and seeming improvement. Kunath remarks that 32% of his acute cholecystitis cases did not subside under conservative management. Estes, as well as others, finds that differential diagnosis of acute gangrenous cholecystitis from other types of acute gallbladder disease is not only difficult but in many instances downright impossible to make.

Giving such liabilities due consideration, one can more readily appreciate the virtue of early surgical operation in these acute cases. The timing of such a procedure for best results comes up for consideration. It is true with these individuals, as is so often

*Read before the Jefferson County Medical Society, Birmingham, June 6, 1938.

with other surgical conditions, that no rule of the thumb method of treatment is applicable. Each case requires clinical judgment suitable for that particular person. Those who advocate early operation undertake it anywhere from the first 24 hours to within a week or ten days after onset of the acute symptoms. Heuer operated on 153 acute cases, 65% of which were undertaken on the day of admission, with a total mortality of 3.5%. A cholecystectomy was done in most instances. He holds that early operation is safer in the majority, but there are certain cases associated with hypertension, arteriosclerosis and renal disease in which delay to improve the general condition may be wiser than too hasty operation. In my opinion, Estes gives a sage and considerate advice. In his series of 50 acute suppurative and gangrenous cholecystitis cases undergoing early operation, there was a mortality of 2%. He believes that most patients require 24 to 48 hours of careful preparation with sedation, high carbohydrate liquid or semi-solid diet, intravenous glucose to promote and sustain adequate liver function and maintain a fluid balance, and, in some instances, blood transfusion. If the patient becomes afebrile, the risk is considered better. Other surgeons have found that operation on these acute lesions after the third day often gives a higher fatality than when done within the first 2 or 3 days. Taylor's review indicated that, where the interval between acute onset of disease and operation reaches five days or more, there is a rapid increase in mortality. An elevated temperature curve, and persistent pain and colic, especially if associated with continued nausea and vomiting, all point to a progressive lesion. A palpable gallbladder, accompanied with acute manifestations, usually is a sign for early surgical intervention. Judd and Phillips look upon x-ray examination in these acute suspicious cases as unnecessary and inadvisable, and prefer surgical exploration.

Glenn, Finsterer, and others believe the age of the patient is a significant factor in gaging the possibility of postoperative complications. In their experience, patients past 40 to 50 years, undergoing operation for acute cholecystitis, had a very definitely higher mortality rate than patients beneath this age. Finsterer, whose mortality statistics for acute gallbladder surgery are un-

usually low, advises operating in the first 24 hours, even in elderly patients, for in them the risk of gangrene and perforation is especially great. Judd and Phillips suggest that, if a decision is made to postpone the operation, it is safer to make this decision in a younger than in an older individual, because of the better blood supply of the gallbladder in the former, with consequently less danger of necrosis of the vesicle wall.

Other interesting prognostic signs can be gleaned from mortality statistics. Everts Graham finds that the mortality of men with gallbladder surgery was approximately three times that of women, and comments that, in general, women tolerate abdominal operations of all kinds better than men. E. Seifert, Kehr and others point out this difference, and Seifert attributes this male disparity to delayed operations, larger proportion of individuals past 60 years of age, effects of alcoholism, and influence of obesity. Also, there is a contributing anatomical difference, in that the gallbladder is less deeply situated in women than in men and thus more readily accessible in women. Heyd contends that the social, economic and nutritional level of the individual are other prognostic factors. On comparing his series of private gallbladder patients undergoing operation, with his series of clinic surgical gallbladder cases, there was a difference of about 9% in the fatality rate, favoring the private patient series. Glenn established the fact that the longer gallstone disease is allowed to persist without surgical intervention the graver the risk of operation when the acute attack occurs.

Although there are a few surgeons who still recommend conservative drainage of the gallbladder in the presence of acute inflammation of the vesicle, by far the majority of surgeons who advocate surgical intervention during the acute phase strongly countenance cholecystectomy, where this can be feasibly done. Drainage of the gallbladder is reserved mainly for those advanced gangrenous vesicles found in poor risk patients with grave systemic disorders. Excellent postoperative results are obtained in 70% to 90% of acute cholecystitis cases so treated. Partial cholecystectomy by the method of Judd, Estes, Ritchie or McKenty is a very valuable procedure in certain acute gangrenous gallbladder lesions. A discus-

sion of this type of operation will be made with one of the case reports.

Many surgeons are opposed to ether anesthesia, or minimize its use, for biliary tract surgery due to its possible ill effect on an already damaged liver, which so frequently accompanies gallbladder disease. Gas and oxygen, spinal, splanchnic novocaine infiltration, or a combination of the above, are the types of anesthesia more favored. Anoxemia is known to have a highly adverse effect on a damaged liver, and any tendency to development of this condition should be studiously avoided, both during anesthesia and in the postoperative care.

The question of exploring the common duct in the presence of an acute gallbladder inflammation has not found general agreement. Judd and Phillips reveal the tendency at the Mayo Clinic. They are not squeamish about removing calculi which they chance to find in the common duct, even in the presence of gangrenous cholecystitis. They contend there is less hazard in removing these stones than in leaving them. Glenn explored the common duct 15 times in his series of operations on the acute gallbladder. Estes remarks that, as a rule, where there is extensive induration and inflammation about the common duct, simultaneous exploration, or operation on the common duct, is rarely advisable because of the added risk, and excess trauma involved in difficulties of exposure, control of hemorrhage, and infection. Under these circumstances, if the common duct involvement is definitely known to exist at operation, he believes a two-stage procedure had best be planned. The gallbladder is drained at the first operation, and several weeks later, under more propitious events, the vesicle is excised and the common duct explored for removal of stone and drainage. In the presence of jaundice and an acutely inflamed gallbladder, widely experienced surgeons consider favorably the two-stage procedure. Exploration of the common duct in the best of hands definitely does add to the fatality rate, increasing it 5% to 10%, or more. Nevertheless, the mortality rate of primary duct exploration, in these cases with accompanying indications for such, should be carefully weighed against the likewise relatively high fatality rate of the procedure, when undertaken as a secondary operation. The ordinarily accepted signs suggesting

need of common duct exploration include: 1. Dilated thickened common duct; 2. Dilated cystic duct, associated with stones in the gallbladder; 3. Thickened contracted gallbladder; 4. History of recurrent attacks of jaundice; and 5. Palpation of stone in common or hepatic ducts. In addition to these, Lahey mentions another practical indication, viz., aspiration of dirty dark bile from the common duct, with syringe and needle. He finds that clear golden yellow bile is rarely ever associated with stone in the common duct.

When any surgical course of action is undertaken in an acutely inflamed field, the organisms involved, or other irritative phenomena, should be appreciated. Numerous bacteriologic studies of acute and chronically diseased gallbladders have been made by various investigators. The wall of the vesicle is more often the site of infection than the contained bile. Staphylococci, streptococci, *B. coli* and *B. welchii* are the organisms more commonly cultured from the involved organ. However, Andrews and Henry, who have done much work of this nature, find that the normal gallbladder, the undamaged stone-containing gallbladder, and the pathologically damaged vesicle, when removed, in either an active or quiescent stage, contain bacteria in the minority of cases. Likewise, an actual majority of the most severely damaged gallbladders were sterile. They reason that bacteria play only a secondary role, and that other possible factors, such as those of mechanical, vascular, toxic and chemical nature, deserve more careful study. Judd also reports a number of acute cholecystitis cases which yielded sterile cultures. Besides bacteria, Gray ponders mechanical obstruction of the vessels of the gallbladder, with or without infection being present, as an important etiologic consideration in acute cholecystitis. Torsion of the gallbladder, or sudden impaction of a calculus in the cystic duct, will induce inflammation. Magner and Hutcheson produced acute gangrenous cholecystitis by ligation of the cystic duct and cystic vessels. Andrews, Gray and others reflect on the possible entrance of a sterile irritant, such as pancreatic juice by retrograde manner into the gallbladder, thereby producing an acute cholecystitis. Glenn contends that experience at the New York Hospital, and in many other institu-

tions, proves that fulminating streptococcal infections after cholecystectomy rarely occur. It has also been demonstrated that contamination of the operative field with contents of an acutely inflamed gallbladder does not result in an extensive peritonitis. In general agreement with these remarks is the prevalent observation that postoperative complications leading to death, following operations on the gallbladder, are a consequence of cardiorenal, pulmonary and liver damage in the majority of instances.

The following cases have been selected to exemplify some of the features of acute cholecystitis.

CASE REPORTS

Case 1—Mrs. A. C., white, aged 48, housewife with eight children, was admitted to the Hillman Hospital, January 5, 1938, on the Surgical Service, Section A., Dr. J. M. Mason, Chief.

The patient had developed a sharp pain in the epigastrium on the previous day, which radiated over the heart and to the left shoulder. Pain had continued for 24 hours as a gnawing type. She had had such attacks, but milder in degree, for the past 8 to 9 years, usually coming on during or just after meals. Preceding an attack there would be much gas and distention. The patient would take soda, then have an emesis and feel better. After each attack there would be residual soreness in the right upper abdominal quadrant. No history of jaundice. However, the patient thought she had passed some clay colored stools at intervals during the previous six months. Fats, pork, cabbage and beans would cause epigastric distress, or bring on one of the attacks. Rarely constipated. Takes a laxative about once a month. Had typhoid fever at the age of 39.

Physical Examination:—Temperature 99.2; pulse 80; blood pressure 150/98. Obese white female in acute pain. There was exquisite tenderness in the right upper abdominal quadrant, associated with muscle spasm. No mass felt.

On entrance the white cell count was 18,650, with 89.5% neutrophils. That night the blood examination showed hemoglobin 70%; a red cell count of 3,700,000; and a white count of 11,150, with 80% neutrophils. Catheterized specimen of urine showed a few pus cells. A later specimen was negative. Two days after entrance the white count was 12,200 with 77% neutrophils. Flat x-ray plate of the abdomen did not reveal any shadow of stone.

The patient was put on a high carbohydrate liquid diet, and 1,000 cc. of glucose were given intravenously soon after admission and again just preceding operation. The patient's temperature ranged from 98 to 99.8, and pulse, 72 to 80.

Operation:—A cholecystectomy was done by me on January 8th, the third day after admission and four days after onset of the acute illness. Nitrous oxide and oxygen anesthesia was used. The gallbladder was distended, thickened, and greyish white in color, with filmy adhesions about the vesicle. Several large stones could be felt

within the gallbladder, and one was impacted in the cystic duct. The common duct did not appear distended, and no stone could be felt on palpation of the duct area. No exploration of the common duct was done. One Penrose drain was left in the gallbladder fossa and brought out through the incision.

Report of the Pathologist (Dr. L. C. Posey):—Chronic cholecystitis, with acute exacerbation; cholelithiasis.

Postoperative History:—The postoperative temperature did not go above 100.2, or the pulse above 110. The convalescence was uneventful, except for a longer than ordinary period of bile drainage from the wound, and which became rather profuse requiring frequent change of dressings. Thinking that possibly an overlooked stone in the lower end of the common duct or sphincter of Oddi spasm might be a factor in this bile drainage, it was decided to try nitroglycerine tablets for a time between the 2nd and 3rd postoperative weeks. The patient dissolved one 1/100 grain tablet of nitroglycerine under the tongue twice a day for a period of three days. Coincident with, or as a result of this treatment, bile drainage from the wound became much less, stopping altogether shortly after discontinuing nitroglycerine, so that the abdominal wound became completely healed and remained so. A noteworthy observation was that, during the period of bile drainage, the patient's stools were light colored and became much darker following the course of nitroglycerine. She did not complain of postoperative colic at any time. However, an overlooked common duct stone was a possibility in her case.

Discussion:—As a result of treatment of this patient, it should not be amiss to review the effect, on the biliary apparatus, of certain drugs which have recently undergone a more accurate appreciation. Investigators at the University of Nebraska noticed that one of their patients experiencing post-cholecystectomy biliary colic was definitely relieved of the pain when taking tablets he had been using for typical anginal attacks. They then made cholangiographic studies in individuals wearing a T-tube in the common duct, using various drugs and noting their effect on the common duct and sphincter of Oddi. Best and Hicken of this group summarize their recent studies. It was shown that morphine would not relax a spastic sphincter of Oddi. In fact, morphine produces an increase in pressure within the common bile duct. McGowin at the Mayo Clinic found a similar increase of pressure as a result of morphine. Doubilet and Colp, experimenting with a kymographic apparatus applied to a patient with a T-tube, established that morphine causes severe spasm for over three hours, which was not influenced by atropine. Best and Hicken explain this effect of morphine by the fact that morphine stimulates rhythmic contraction of the intestinal wall, which in turn serves as a secondary sphincter mechanism at the lower end of the common duct. If any relief from pain is obtained from morphine under these circumstances, it is because morphine depresses the paths by which pain stimuli reach consciousness. Grebe finds

that atropine causes various degrees of relaxation of the gallbladder itself, and causes it to fill better by increasing the tone of the sphincter of Oddi. Best and Hicken surmise, without any definite proof, that if pain is caused by gallbladder and cystic duct involvement more satisfaction is got from the use of atropine, either alone or in conjunction with morphine.

Glyceryl trinitrate, or nitroglycerine, was found to be a definite and consistent relaxer of the sphincter of Oddi. As a rule, it can be depended upon to relieve postoperative colic, pain or distress due to common duct stone, or spasm of the sphincter of Oddi, more satisfactorily and more often than any other one drug except amyl nitrite. The relaxing effect of nitroglycerine was consistently proven by the Nebraska investigators, as well as by McGowin and his associates at the Mayo Clinic. McGowin establishes a similar effect for amyl nitrite. Both groups report instances of complete relief of colic and distress, appearing after cholecystectomy, by giving the patient 1/100 grain of nitroglycerine to be dissolved under the tongue; or by inhalation of amyl nitrite. For spastic biliary dyssynergia, Best and Hicken prescribe 1/100 grain nitroglycerine tablets. One tablet is dissolved under the tongue, and this may be repeated several times during the course of a few hours if necessary; or the drug may be used three times a day for a short period. They believe that this treatment may not only relieve the spasm of the choleductal sphincter, and permit free drainage from the common duct into the duodenum, but inspissated bile, or stones, may find easy exit. They actually observed, in their cholangiographic studies, the release of small stones from the common duct, which had been overlooked at operation. In certain postoperative biliary tract cases with persisting distress, in addition to the nitroglycerine treatment, cream, olive oil, or occasionally magnesium sulphate, are given. At the same time, in some of these patients, cholagogues may be prescribed in the hope of establishing a freer flow of bile, so that any remaining small stones, or inspissated material, may be washed out.

Case 2—Mrs. E. C., white housewife, aged 35, with eight children, was admitted to the Medical Service of the Hillman Hospital on February 28th, 1936 with the complaint of pain in the right upper abdomen, nausea and vomiting and, also, bloating. She was awakened two days previously, at 2:00 A. M., with a severe cramping pain over the gallbladder region which spread over the entire abdomen. She was bloated with gas, and belching gave her relief. Vomited, first food and later greenish material. A physician was called, who gave her a hypodermic of morphine but with little relief. Her symptoms continued until she entered the hospital. There was a history of similar previous attacks over the past four years but not quite so severe. They had their onset soon after her fourth pregnancy. No history of jaundice or clay colored stools. There had been an appendectomy and a hemorrhoid operation at the age of 19.

Physical Examination: — Temperature 100; pulse 88; respiration 20; blood pressure 130/80.

The patient was a plethoric white female who did not appear acutely ill. Abdominal examination revealed a lower midline scar. A small tender plum-sized mass, cystic to palpation, could be felt in the right epigastrium. She was generally obese.

Laboratory Examinations:—

2/29/36. Blood:—Hb. 65%; R. B. C. 3,660,000; W. B. C. 17,300 with 89% neutrophils.

Catheterized specimen of urine showed plus 1 albumin, a few pus cells, R. B. C. plus 2, a few hyaline casts.

3/10/36. Blood:—Hb. 64%; R. B. C. 3,270,000; W. B. C. 6,400 with 64% neutrophils.

Urine negative except for trace of sugar.

3/6/36. Graham test of the gallbladder showed impaired function, but no shadow of stones.

Preoperative History:—The patient was put on a fat free diet while on the Medical Service. Morphine, grains ¼, was necessary only one time and that was on the night of entrance to the hospital. Sedation with luminal, gr. 1½, by mouth was given on February 29th and March 1st. Milk of magnesia was given on two occasions. Gallbladder drainage by Lyon technique was given on March 3rd, 6th and 7th.

After March 1st the patient had very little discomfort, except for a short period of distress following Lyon type of gallbladder drainage on March 4th.

Temperature and pulse range was as follows:

2/29 to 3/4 Temp. 99 to 101; pulse 84 to 110.

3/4 to 3/8 Temp. 97.2 to 99.6; pulse 80 to 90.

3/8 to 3/11 Temp. 97.4 to 98.6; pulse in 70's.

On March 9th I saw this patient in consultation. At that time her temperature and pulse were normal. There was very little tenderness over the gallbladder area, and no evidence of muscle spasm. No palpable mass was elicited. The leucocyte count was 6,400 with 64% neutrophils. The patient did not appear to be ill or in any distress whatsoever. My impression was that she had a subacute or subsiding cholecystitis and advised transferring her to the Surgical Service for exploration of the gallbladder. She was transferred to Section A. of the Surgical Service, Dr. J. M. Mason, Chief. On the night before operation, 1,000 cc. of 10% glucose were given intravenously.

Operation:—On March 11th, 15 days after acute onset of her illness and 12 days after entrance to the hospital, an exploratory laparotomy, using the oblique gallbladder incision, was done by me. Cmentum was found to be adherent about the liver and gallbladder. By separating adhesions in this area, a walled-off abscess containing thick whitish pus and apparently located about the base of the gallbladder was opened. Upon freeing the gallbladder still further, a gangrenous perforation about the size of a forefinger, with numerous small stones protruding through the opening, was found at about the junction of the middle and distal third of the gallbladder surface on the stomach side. The brawny, edematous and thickened vesicle was freed from above down for about 2/3rds of its length, and well below the gangrenous perforation. The gallbladder was cut

across at this level and all the gallstones to be found removed, from inside as well as outside the vesicle. There were dense brawny adhesions about the neck of the gallbladder, cystic and common duct areas. A large rubber drainage tube was sewed into the end of the gallbladder stump. A Penrose drain was put to Morrison's pouch, and two additional Penrose drains were placed down about the stump of the gallbladder and the rubber drainage tube. The Penrose drains and rubber drainage tube were brought out through the upper angle of the wound. When the patient returned to bed the rubber tube was connected up to a bottle beside her bed.

1,000 cc. of 5% or 10% glucose were given intravenously every eight hours for 48 hours. A nasal catheter to the stomach was left in continuously for the first 24 to 48 hours. There was some postoperative shock which was combated successfully by elevation of the foot of the bed, heat, caffeine stimulants and fluid. Clear liquids were given the patient on the third day.

Only a small amount of dark bile drained from the tube during the first 24 hours, but this bile drainage increased as time went on. Also, there was much bile drainage into the dressings. The last Penrose drain was removed on the 10th postoperative day, and the rubber tube on the twelfth. The patient was discharged from the hospital on April 3rd, twenty-three days after the operation. Bile drainage had completely stopped and the wound was healed, all except a small granulating area where the drains came out. During her convalescence the patient's temperature did not go above 101.2, and the pulse above 150. These heights were reached on the 2nd and 3rd postoperative days.

Report of the Pathologist (Dr. George S. Graham):—Gangrenous perforated gallbladder.

Discussion:—This case is reported in more detail for two reasons. It is a concrete example of how a grave gallbladder condition; viz., gangrene, perforation and abscess formation can masquerade with little or no clinical evidence to indicate such a catastrophe. At the time of surgical consultation, two days prior to operation, the patient appeared in no distress whatsoever. Her pulse and temperature had been normal for two or three days. Very little abdominal tenderness and no palpable mass or muscle spasm could be elicited. Oddly enough, and fitting in with her clinical picture at the time, was her leucocyte count, also within normal limits, being 6,400, with 64% neutrophils. This patient, no doubt, underwent perforation as a result of the so-called conservative watchful waiting policy, covering a period of twelve days in the hospital and fifteen days from onset of her acute illness, and without any clinical findings to reveal the progress of the disease.

The surgical treatment given this patient also may be used to illustrate the virtue of partial cholecystectomy for certain cases of advanced gangrenous cholecystitis with troublesome adhesions about the gallbladder base. Several surgeons have advocated such an operation, and it has been attended with a surprisingly low mortality. The general technique carried out above

is that mentioned by Judd. In the partial cholecystectomy espoused by W. L. Estes, the gallbladder bile is first aspirated with a needle, and then the wall of the vesicle is longitudinally incised from fundus to neck, and each lateral flap is excised to the liver attachment. The strip of gallbladder wall left attached to the liver bed is swabbed with full strength tincture of iodine, or cauterized with phenol, and left. Bleeding points are controlled with catgut suture or ligatures. Three drains are brought out, extending from the subhepatic area up over the neck and bed of the gallbladder. In his cases, bile fistulas have always healed within two to three weeks. He has done this operation on 48 cases of acute gangrenous cholecystitis, with one death. Ritchie does a similar wing resection of the gallbladder wall, except he removes the mucosa from the remnant left in the liver bed. He also inserts a small rubber catheter, for drainage, in the cystic duct, and does, or does not, fix the tube with catgut sutures. Ritchie reports 16 such operations, with no death. McKenty summarizes 33 operations of this type, with one death. This makes a total of 93 partial cholecystectomies for acute gangrenous lesions of the gallbladder with two deaths, or an operative mortality of 2.15% for this serious gallbladder involvement. Estes had occasion to re-examine two of his cases of partial cholecystectomy, who came to operation for some other abdominal conditions, several months or years later, and found the gallbladder stump well healed with no evidence of reformation of a gallbladder. Estes also finds that the end results of partial cholecystectomy compare favorably with complete cholecystectomy. In his series of 48 cases, 81% were completely well in the follow-up, and 11.9% were well with dietary restrictions. 9.5% had postoperative common duct involvement.

GENERAL SUMMARY AND CONCLUSIONS

1. Considerations that extol the virtue of early surgical intervention in cases of acute cholecystitis include the high percentage of gangrene, empyema and perforation that occurs with acute cholecystitis under a watchful waiting policy; the frequent inability to accurately gauge the progress of the disease by close clinical observation; the reasonably low mortality rates associated with early surgical intervention; the high percentage of excellent postoperative results attendant on such a procedure; and, last, the active endeavor to forestall the additional grave complications, more or less expectant, with acute cholecystic disease, together with their accompanying higher fatality rates. This last undertaking is a recognized need and challenge. An apparently favorable trend to this end is being accomplished as a result of the more energetic surgical attitude.

2. The timing of early surgical intervention, for best results, should not follow a

dogmatic rule. Each individual requires clinical judgment suitable for that particular person. However, unless there are associated serious systemic disorders, requiring more extended preoperative amelioration, undertaking of the surgical procedure within the first 48 to 72 hours after onset of acute symptoms, and following due preparation with high carbohydrate, liquid, or semi-solid diet, together with intravenous glucose solution, and possibly blood transfusion, seems to be productive of the most satisfactory results. Reports from the literature are cited to show that when the interval between onset of acute symptoms and operation reaches five days, or more, there is a definite increase in fatality. Additionally, delayed operation in older individuals especially tends to enhance complications.

3. Factors, in general, affecting the mortality rate of gallbladder surgery are reviewed, such as age of the individual, sex differences, economic level of the patient, and duration of gallstone disease before acute cholecystitis intervenes; and the presence of associated chronic visceral damage or disease, as that of the liver, heart, kidneys and lungs.

4. Indications for, and against, common duct exploration are discussed.

5. Etiologic consideration of the production of acute cholecystitis must take into account agents other than bacterial infection. Many acutely inflamed vesicles have been found to be bacteriologically sterile by numerous investigators.

6. Two cases of acute cholecystitis are surveyed in detail, to bring out specific features of acute cholecystic disease. The effect of certain drugs, on the biliary tract, which have recently undergone a more accurate appreciation is reviewed in connection with one of the cases. The value and technique of partial cholecystectomy are discussed with another case.

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Avitaminosis—The avitaminoses are very frequently associated with gastro-intestinal symptoms which may dominate the whole clinical picture. Gastro-intestinal disturbances, on the other hand, may result in deficiency expressions. The clinician, in the management of patients suffering from rather vague and indeterminate symptoms, notably those which may be labeled dyspepsia, or dyspepsia symptoms, should bear in mind that they may result from a diet which on superficial examination seems to be adequate but which in actuality is substandard.—*Musser and Sodeman, South. M. J., August 1938.*

A STUDY OF BLOOD BROMIDE*

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FOREWORD

By
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The recent formation of The Alabama Association of Medical Technicians is indirectly of intense interest to the medical profession and directly a compliment to the membership of the organization of technicians. The paper presented by Miss Johnson is an indication of the benefits to be derived not only by the members but also in being conducive to laboratory efficiency wherever these technicians may be occupied or employed. Miss Johnson's paper on "A Study of Blood Bromide" is a refreshing stimulus to progressive research and study for technicians, and the medical profession as well.

Her discussion, together with the cases she reports from the work of the Medical Staff at The Bryce Hospital and her own laboratory work, has a definite significance which should impress each member of the medical profession in the state. It should remind us of the dangerous effects of sedative drugs to the brain and nervous system, particularly bromides which she discusses more specifically. It should also emphasize the dangers of patent medicines, many of which contain various sedatives, including bromides, and are dispensed laxly over drug counters without knowledge to the patient that such medicines contain dangerous and harmful drugs. I commend the paper to the careful reading of each and every physician. Promiscuous consumption of sedative drugs, particularly bromides and barbitals, is adding materially to the numbers to be treated for mental disorders.

The members of the Medical Staff who are making these studies plan a full and comprehensive report soon, both from clinical and laboratory standpoints.

Bromide therapy has been in existence for almost a century, and a great deal of investigative work has been done relative to its use and misuse. Walter in 1912 published a simple procedure for the determination of bromide in the blood. In 1925 his method, unreliable because of too great degree of error, was modified by Hauptmann. Since then there has been an aroused interest in the laboratory side of bromide therapy. This method has the advantage that it can be used for both blood and cerebrospinal fluid. In more recent years extensive re-

search is being done in determining the bromide ratio between the blood and cerebrospinal fluid.

As a result of Hauptmann's efforts, certain other tests came into existence, notably one by Otto Wuth, who, for clinical laboratory purposes, devised a test using a comparator. The disadvantage of his method was that in the higher concentrations the comparator differentiated only between 200 and 300 mgm. of bromide per 100 ml. of blood. In bromide intoxication and in epilepsy treatment the concentrations over 200 mgm. are the most important.

The test is of value in—

1. Determining bromide intoxication.
2. Treatment of epilepsy, nervous disorders, and mental diseases. Epileptics who do not respond to luminal and phenobarbital frequently do well on bromide or bromide and luminal.
3. Psychiatric research to determine the hemato-encephalic barrier, etc., the relation between the concentration of bromide in the blood serum and in the cerebrospinal fluid after the introduction of a certain amount of bromide into the body.

Otto Wuth in his article on "Rational Bromide Therapy" has this to say: "Bromide treatment to be rational must on the one hand produce the desired effect of the drug, and on the other hand avoid the danger of bromide intoxication. The foundations of bromide action and consequently also those of a rational treatment are based on the relations between chlorides and bromides—the chloride-bromide equilibrium or replacement." It is known that sodium chloride is present at all times in the organism and that its concentration is constant. If the intake of salt is increased the output will be increased, and vice versa. Experimenters have found that one halogen like sodium chloride can be substituted by another like bromide, and that one molecular weight of sodium bromide will replace one molecular weight of sodium chloride. But it has also been observed that the human organism has a greater affinity for sodium chloride than for sodium bromide, and that there is a saturation of the organism with sodium bromide only when the sodium chloride intake is insufficient. This relationship between these two halogens lends importance to the laboratory phase of bromide therapy and "justifies a demand for a

*Read before the Second Annual Meeting of the Alabama Association of Medical Technicians, Birmingham, May 5, 1938.

clinical method for bromide estimation."

We use Kattzenelbogen and Czarski's modification of Hauptmann's method. The only differences are that Kattzenelbogen and Czarski used NaCl solution, 0.75%, to dilute patient's serum, and 0.70% to dilute working standards and to make stock standard NaBr solution. The stock standard contains 166.8 mgm. of NaBr in 100 ml. of NaCl solution instead of 142 mgm. as in Hauptmann's method. These two investigators found that the use of NaCl solution as diluent instead of water took care of the unrecoverable part of NaBr in the blood serum, as found by Hauptmann and others.

In the Bryce Hospital Laboratory we do a quick and simple qualitative test by dropping 0.5% solution of acid brown gold chloride into the tubes containing the sera left over after the complement-fixation test has been set up. Familiarity with the color change produced in the presence of bromide in the serum enables us to pick up relatively small quantities of bromide—even as low as 25 mgm. per 100 ml. of blood. The sera showing an appreciable amount of bromide are subjected to a quantitative analysis.

The principles of the method involve the preparation of a protein-free filtrate by coagulation with trichloroacetic acid, and the addition of the gold chloride solution to the filtrate producing color changes (due to the formation of gold bromide) varying from a yellowish brown to a reddish brown, corresponding to the bromide concentration.

PROCEDURE

1. 3 ml. of patient's blood serum.
2. Add 6 ml. of 0.75% NaCl solution.
3. Add 1.8 ml. of a 20% solution of trichloroacetic acid.
4. Allow to stand one-half hour, then filter or centrifuge.
5. Transfer 6 ml. of filtrate to tube or graduate; add 1.2 ml. of 0.5% acid brown gold chloride solution and mix.
6. Read in colorimeter against standard bromide solution.

Calculation: $\frac{\text{Depth of standard} \times \text{factor}}{\text{Reading of unknown}}$ = Mgm. of NaBr per 100 ml. of blood.

Standard set at 10.

Stock Standard NaBr Solution:

1.668 grams of NaBr added to 1,000 ml. of 0.70% NaCl solution. (Keeps indefinitely.)

Working Standards:

Dilute 1.0 ml. of stock sol. to 10 ml. with 0.70% NaCl, factor—50

Dilute 2.0 ml. of stock sol. to 10 ml. with 0.70% NaCl, factor—100

Dilute 3.0 ml. of stock sol. to 10 ml. with 0.70% NaCl, factor—150

Dilute 4.0 ml. of stock sol. to 10 ml. with 0.70% NaCl, factor—200

Dilute 5.0 ml. of stock sol. to 10 ml. with 0.70% NaCl, factor—250

Dilute 6.0 ml. of stock sol. to 10 ml. with 0.70% NaCl, factor—300

Dilute 7.0 ml. of stock sol. to 10 ml. with 0.70% NaCl, factor—350

To 10 ml. of the above dilutions add 2 ml. of trichloroacetic acid solution; 2.4 ml. of 0.5% acid brown gold chloride solution. Mix, and compare with the unknown.

For the year ending March 3, 1938 we have done a total of 803 qualitative tests on male admissions to the Bryce Hospital, with positive findings in 63 cases. A quantitative analysis was done on 46 of this number.

A total of 640 qualitative tests were made on female admissions with positive findings in 93 cases. Bromide in sufficient concentrations to justify a quantitative estimation was found in 60 cases.

The percentage of toxic cases among men (based on 500) was 24%.

The percentage of toxic cases among women (based on 500) was 23.5%.

REPORT OF CASES

Case 1. J. T. B., a white male, age 25, admitted to Bryce Hospital August 10, 1937, was confused, dull, moved and talked slowly. He looked toxic, his tongue was furred; he thought he could hear voices talking to him, and was somewhat apprehensive. On August 11th an examination of his blood revealed 279 mgm. of sodium bromide per 100 ml. of blood. His case was diagnosed as bromide psychosis and was immediately started on salt therapy, being given 2 grams of sodium chloride three times a day. In addition he was given intravenously 750 ml. of physiologic saline once a day for three days. On August 18th his mind was much clearer, he no longer had hallucinations, was eating better, and much more alert and active. A blood bromide test at that time revealed 79 mgm. of NaBr. On August 26th he seemed entirely all right mentally, was rapidly gaining in weight, and without further treatment his blood bromide dropped to 74 mgm. % on Sept. 2, 1937.

Case 2. Mrs. M. L. C., a middle-aged woman, was admitted to Bryce Hospital Feb. 8, 1938 in a toxic, confused, fearful, hallucinatory state. She would not wear her clothing, was suspicious of food and water, her mouth was dry and her tongue badly coated. She slept very poorly during the first few nights, was up rambling around in her room, thought her people were calling to her from the yard, and on occasions would scream. The clinical examination suggested the possibility of a bromide psychosis although we

had little history of any specific medication prior to her admission into the hospital. A test for bromide showed 312 mgm. per 100 ml. of blood. She was immediately placed on sodium chloride therapy. Salt was administered in tomato juice and canned tomatoes. On Feb. 21st, twelve days after her admission, there was marked improvement in her condition. She was able to talk sensibly, understand her surroundings, and was able to sleep satisfactorily. On March 5th she was allowed to go home, apparently completely recovered. Our diagnosis was psychosis due to bromide.

SUMMARY AND CONCLUSION

A simple qualitative test for bromide, utilizing the heretofore discarded blood sera from the complement-fixation test, is presented. The results of a more detailed study of certain cases with a quantitative method are reviewed, all of which show that a high percentage of people having nervous and mental disorders are given bromide more or less routinely; that of these a little more than 1 out of 5 develop toxic symptoms. A quantitative test for bromide in the blood sera is now practically essential in making a diagnosis of bromide intoxication, and a more widespread use of this test in all hospitals and clinics will result in a better knowledge of bromide therapy, and a more complete understanding of the misuse of bromides.

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The Family Doctor—During the great exodus from general practice to the specialties several years ago, many thought that the family doctor was a thing of the past. Time has shown, however, that he will always remain a part of the practice of medicine—an essential and highly desirable part. The general practitioner, the family doctor, is the first thought when a medical or surgical emergency arises in the home. Through the general practitioner the patient is, in the vast majority of instances, first brought into contact with the medical profession.—*de Gravelles, New Orleans M. & S. Journal, August 1938.*

OBSTRUCTIONS OF THE URETER

By

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Many obstructions of the ureter can be relieved permanently by manipulation through the cystoscope and cannot be relieved in any other way. This paper deals only with the diagnosis and treatment of the non-surgical types of obstruction, or those in which surgical intervention is not indicated. Obstructions of the ureter as we have found them, according to cause and in order of their frequency, have been due to stricture, kink, stones, pressure, stenosis, trauma, tumors and atresia.

ETIOLOGY

More obstructions are due to stricture than to all other causes combined. The causes of each, so far as we know, are (1) stricture: acute inflammation, chronic inflammation, spasm, congenital, traumatic and stenosis; (2) kink: an acute angulation, or kink, of the ureter can arise from ptosis, which includes movable and floating kidneys; sacculated ureter, elongated ureter with adherent folds; and (3) stone. The etiology of urolithiasis is far from clear, but faulty metabolism, hyperparathyroidism, vitamine-A deficiency in the diet, spinal cord injuries and disease, prolonged rest in bed, infection and obstruction are believed to contribute to the condition.

All the above are suspected causes and have been much debated, but the conditions determining the factors producing calculi are beyond our present knowledge. However, I should like to give my opinion of the probable cause of stone. I believe all urine, acid or alkaline, produces crystals, or a substance capable of forming crystals, under certain conditions. Acid urine produces uric acid, urates and calcium oxalate crystals. Alkaline urine produces ammonium magnesium phosphate, amorphous calcium phosphate and carbonate crystals. Faintly acid or neutral urine gives off phosphatic and calcium crystals.

There must be in all urines crystals or substances capable of forming crystals. We may call these substances "crystalloids." With the excessive excretion of these materials the colloidal mechanism is inadequate to maintain solution; and with this precipitation of the urinary salts I believe

the organic frame-work of stones is formed. Now add to the excessive precipitation of urinary salts, obstruction to the flow of urine, urostatics, and we have an ideal field for infection. The blood stream may carry micro-organisms. Where there is excessive precipitation of crystals, plus urostatics, plus infection, stones are commonly found.

(4) Pressure: Other types of obstruction of the ureter may be due to pressure from tumors (fibroids, malignancies, etc.), adhesions and bands following operations and inflammation, abscess formation, infected tubes, vesiculitis, etc., and anomalous blood vessels. The uterine vessels may compress the lower ureter. More common are the vessels passing from the lower pole of the kidney to the great vessels.

(5) Stenosis is usually found at the ureteral orifice and suggests stones in the lower ureter, causing pouting and contraction from inflammation.

(6) Traumatic strictures are most common from automobile injuries.

(7) Tumors of the ureter are very rare, and are diagnosed by ureterograms and are treated by surgery.

SYMPTOMS

The general symptoms of all ureteral obstructions are very similar, except the sharp, tearing, lancinating pain of a passing stone. I shall take up the symptoms of all the obstructions as a whole.

Next to the history of recurrent cystitis, the most common symptom is a dull pain in the kidney region, lumbar or front, radiating downward toward the genitalia along the ureter on that side. At times it may radiate upward toward the shoulder. If on the right, it may be similar to gallbladder disease or appendicitis. If on the left, it may suggest angina pectoris.

The next most common symptom is gastro-intestinal, i. e., nausea and vomiting. This is fairly constant, especially in severe cases. If there is much infection, often chills and fever with a rapid pulse are present, unless the condition is quite chronic. During the attack there is usually some disturbance to the output of urine. Macroscopic blood is present in a large number of all types of obstruction, stricture, kink, pressure and trauma, but is more pronounced in obstruction from stone.

DIAGNOSIS

First, a complete history is essential. Then a careful physical examination is made to determine the condition of the patient and the correct handling of the case. A search is made for any complication of renal obstruction, such as hydronephrosis, pyonephrosis, perinephritic abscess and urinary extravasation. One looks for a possible sepsis and tries to determine if emergency procedures are necessary. The reflexes are tested for a suggestion of a tabetic condition, as the pains may be from tabes. We consider the stomach and duodenum as possibly harboring an ulcer or perforation. One should palpate the prostate and seminal vesicles. A prostatic abscess or seminal vesiculitis may exist. If pain is prostatic in origin, the expressed fluid will show pus cells; a massage will usually give relief. Quite frequently a seminal vesicle distended with pus will cause obstruction, with all symptoms of obstruction and very little pointing to the vesicle itself.

Urinalysis is valuable. A microscopic examination of the sediment is essential. A phenolsulphonphthalein test is necessary, is accurate under average conditions and gives valuable data; yet if there is urinary retention from obstruction or unsatisfactory circulatory conditions, the test is unreliable. The estimation of the non-protein nitrogen and creatinine in the blood serves as an excellent index of the general condition of the patient.

The only way to determine definitely whether ureteral obstruction is present, and the cause, is by ureteral catheterization. One first obtains a flat film of the kidneys, ureters and bladder. Next one makes x-ray films with catheters in place, and lastly a pyelo-ureterogram. The flat film will reveal calculi if present, in or out of the ureter, their number, size, shape and contour; and this will show at a glance what course should be followed. It can be determined fairly accurately whether a stone will pass without manipulation, the amount of manipulation necessary, or whether it is useless to try manipulation. A pyelo-ureterogram will show the size, shape of the renal pelvis and ureters, the course of the ureters, the constrictions and dilatations, as well as the outline of the kidney, the amount of rotation and ptosis if present.

Consider the valuable information ob-

tained from cystoscopy with ureteral catheterization. Incidentally, at the same time, one can learn the size of the urethra, bladder capacity, the amount of inflammation of the bladder, and its contour, as well as the size and position of the orifices, whether the ureter is patulous and the size of catheter each will take; and one may collect a bilateral specimen of the urine for chemical and microscopic examination. Then the injected media will show the size and shape of each pelvis and ureter; and a test of renal function can be made. This information is accurate and most definite in making a diagnosis.

TREATMENT

The treatment may be grouped as expectant, instrumental, operative and preventive.

Expectant treatment is supportive, to which can be added therapeutic measures which will aid in the passage of stones or give relief if there is obstruction other than stone. Urinary antiseptics, such as the group of drugs eliminating formaldehyde in the urine, are most commonly used, but should be given only when the urine is acid. We find that ammonium chloride is one of the best to acidify the urine. Pyridium and serenium are also used frequently. Urinary antiseptics are valuable to relieve symptoms and prevent infection from instrumentation. If expectant treatment fails, instrumental treatment should be started. It consists of various cystoscopic means to prevent destruction of the kidney substance from back pressure, by draining the renal pelvis, thereby relieving renal colic and preserving renal function; and, if obstruction is due to stone, it aids in its passage.

I shall discuss the less frequent conditions first and the most common last.

Tumors of the ureter are extremely rare. There is obstruction with bleeding, more blood on attempting to pass a catheter; and a ureterogram should locate the tumor. Surgery is the only treatment.

In obstruction due to trauma, by all means we should pass a catheter and keep the ureter patulous. The catheter is kept in place seventy-two to ninety-six hours to drain the kidney until this is no longer needed. One should not hesitate to replace the catheter immediately if urine does not pass when the catheter is removed.

For stenosis the orifice is dilated. If unable to dilate it sufficiently, the orifice is

cut with scissors or a cautery. Then dilate. One passes a catheter and searches for stone.

In the case of pressure a catheter is passed and left in place until drainage is established and the flow is normal.

Stones are treated first by a study of the x-ray picture. One's best judgment is needed in determining whether the stone is small enough to pass with help. Usually a stone up to five millimeters can be manipulated so that it will pass downward into the bladder. We have dilated the ureter up to a twenty-two French. The ureter should be dilated up to the stone, to the diameter at least as large as the stone if possible. In the meantime one tries to keep up drainage past the stone. We use sterile olive oil injected up around the stone. Opiates, hot baths and enemas are given. If the stone is in the upper part of the ureter, the urine being completely blocked and the stone will not pass, we do not hesitate to use the blunt end of a bougie, but it should be perfectly smooth. Well lubricated, it is introduced up the ureter and the stone is pushed back into the pelvis. Our hope is that perhaps in the next attempt a smooth end of the stone will present downward, engage itself and pass, or the stone will follow the dilatation down and out, after the trauma of the stretchings has subsided.

Many instruments have been devised for the removal of stones, or for aiding them in passage through the ureter. Too rough manipulation, such as force or too stiff or too angular an instrument, should be avoided, as it is very dangerous. One thing about ureteral obstruction due to stone should be kept in mind constantly: Manipulation should be practiced only so long as the kidney is draining. If drainage cannot be established with a catheter, bougie or filiform, only a short time will elapse before back pressure will damage the kidney substance so that nephrectomy will be necessary to save life. One does not hesitate to operate where urinary drainage cannot be established.

When a kink is the cause of obstruction, ureteral catheterization is necessary to establish drainage. The catheter is left in place. An attempt is made to get the patient fat so that the fatty tissue will hold the kidney in place. This can be done in a large percentage of cases of ptosis. If this fails,

one may anchor the kidney surgically, but only after the most painstaking study has shown that the symptoms are arising from the kink, which sometimes is only incidental.

There is only one treatment for ureteral stricture and that is gradual dilatation. One starts with a catheter that will just pass, a filiform or bougie, and dilates the ureter a little higher every five to seven days, depending upon the reaction. This is kept up until a No. 7, 8, or 9 will pass. That will usually suffice, although Guy L. Hunner advocates carrying it to No. 18 French, showing the great latitude of opinion in the matter. We usually lavage the renal pelvis with a warm sterile solution of acriflavine, about 1-2000, leaving some in the pelvis to run down through the ureter to bathe any abrasion along the channel after the catheter has been removed, but normal saline is better borne and produces less after-colic. The patient is advised to return in three months for a check-up to ascertain whether the ureter is still draining satisfactorily. If there are no symptoms and the catheterized bladder urine is negative, cystoscopy is still further deferred. Properly handled, all cases of stricture should be relieved, the amount varying from a more comfortable existence to a complete cure in the rare instance.

CASE REPORTS

Case 1. B. C., a white male, age 16 and single, worked on a ferry boat when not in school. His urinary disturbance dated back two years previously. At that time he had pain in the back and hematuria. He was examined by his family physician who gave him some medicine after which the symptoms cleared up. When seen by us two years later he was suffering with pain in the region of the kidneys and there had been passage of blood in the urine for one week. He was cystoscoped and a No. 5 x-ray catheter was passed to within two inches of each pelvis. A flat film was made, then each pelvis was injected with sodium iodide, 13 per cent solution. The pyeloureterogram showed constriction in both ureters with rotation, causing obstruction just below the ureteropelvic junction. The treatment consisted of ureteral dilatations at five-day intervals for eight weeks, beginning with a No. 4 filiform and gradually dilating the ureters to No. 9. Of course both sides were not dilated at the same time, for death has been reported from such a procedure. The symptoms cleared up nicely. Six months later he did not show any evidence of obstruction and he has been without symptoms since then.

Case 2. Mrs. C. D. W., a white female, age 22 and married. Was the wife of a farmer. She was referred on November 21, 1935 by her family

physician with a diagnosis of obstruction of the right ureter. She was almost four months pregnant at the time. She gave a history of having pain in the region of the right kidney radiating downward along the ureter, for several months, and chills, fever and sweats, together with nausea and vomiting. Her temperature at that time reached 104 degrees. Her general appearance was not good. She was pale, anemic, appeared quite ill and her hemoglobin was 55 per cent. On cystoscopy it was impossible to pass anything larger than a No. 4 filiform up to the right kidney. There was much resistance for three and one-half to four inches along the middle third of the ureter. The ureter was dilated at regular intervals for six weeks, gradually getting larger catheters through the stricture until a No. 9 was passed. Her vomiting ceased after the second dilatation and the temperature dropped to normal and remained so. She has not been back for a rechecking, but her family physician reports that she had an uneventful labor, a healthy baby and has been symptom-free since. This was a true stricture and the symptoms were not due to pressure from a pregnant uterus, since she was relieved by dilatations and her symptoms did not recur.

Case 3. Mrs. V. R., age 26, a white married woman, was a housewife. She had a Neisserian infection five years previously. Three years later she had an attack of pyelitis with severe pain in the region of the left kidney, with chills, fever and sweats. At that time she had been hospitalized for one week and was confined to bed for a few weeks following that. The treatment was rest in bed, urinary antiseptics, etc. When first seen by me in January 1936, in consultation with her family physician, he had already secured an x-ray flat film and an intravenous urogram. Urogram was clear on the right side, but not on the left. Two shadows were seen along the region of the left ureter. On cystoscopic examination a catheter was passed, about three inches up the left ureter and a retrograde ureterogram was made. It showed two stones in the ureter, one about three-eighths of an inch in diameter in the upper third and one smaller in the lower third of the ureter. It was impossible to get anything larger than a No. 4 filiform past the stones at first; so a catheter was left in place for two days. On trying again no better results were obtained. Next the ureter was dilated below the lower stone to the size of a No. 10 and sterile olive oil was injected to facilitate descent of the stone. At that time the phenolsulphonophthalein test showed 50 per cent on the right and none on the left. Indigo carmine was injected and no color came through. The tests were repeated; no dye came through the left and she was free of back pressure. Operation was advised but she refused it, as she was no longer suffering. Two weeks later the stones passed. The renal pelvis was then lavaged through a No. 8 catheter. In about ten days some urine came through the left side. The 'phthalein test was repeated and showed on the right 40 per cent and on the left 20 per cent. The question in my mind was whether the left kidney had been completely blocked for two weeks with

the right kidney compensating for it; and then, when the obstruction was removed, could the left possibly have returned to normal functioning?

Case 4. Mrs. F. K., age 28, was a white woman who had been married five years. She had one child, age three. There had been no other pregnancies. Height 5 ft., 1 in. Weight 97. She came to me on February 3, 1935. She started menstruating at 14 and was regular until her pregnancy and had a fairly hard labor. Instruments were used and some lacerations resulted, which were repaired. Since the baby came she had not been well. There was loss of weight, she looked anemic and her hemoglobin was 58 per cent. She had frequent attacks of nausea, vomiting and diarrhea, with as many as ten to twelve stools in twenty-four hours. When the attacks came on she had had a dull pain in the right upper quadrant of the abdomen. She had been under the care of her family physician for gastritis and cholecystitis. On physical examination the right kidney could be easily palpated and was movable. At cystoscopy a pyelo-ureterogram showed a marked ptosis of the right kidney. Treatment: Rest in bed; elevation of the hips; ureteral catheterization for drainage with the catheter left in place 48 to 72 hours. Gradually she was dilated up to a No. 10. This was done about every two weeks for eight months. In the meantime she was given a liberal diet in an effort to fatten her as much as possible. At the end of eight months she weighed 120 pounds, and for the past two years she has had no further trouble and is in good health. This is a typical kink of the ureter.

CONCLUSIONS

From this brief consideration of ureteral obstructions the following conclusions are drawn:

1. Ureteral calculi can be removed by manipulation in about 85 per cent of cases.
2. Strictures of the ureter when chronic often show no pus when seen. Uncomplicated cases, as a rule, can be relieved and in rare instances completely cured after a series of dilatations.
3. Other ureteral obstructions can be relieved in more than 90 per cent of cases until the cause itself can be eliminated.
4. It should always be remembered that ureteral disease can cause various abdominal symptoms and that these may be so vague as to necessitate the most careful differential study.
5. Therefore, obstructions of the ureter always should be excluded by meticulous cystoscopic and ureteral investigation.

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REFERENCE

Cabot's Modern Urology, Vol. 2, pages 293 and 296.

Functional Uterine Bleeding—In very young patients curettage is not usually necessary, for the functional nature of the bleeding can be assumed in the absence of gross lesions, and cancer is rarely to be thought of at this age. When the patient has lost great amounts of blood, however, curettage may be required for the immediate control of the bleeding which it usually brings about, though the operation must often be preceded by transfusion. In the event of the bleeding recurring, as it so commonly does, organotherapy should be resorted to, in accordance with the plan I have outlined. If this is unsuccessful, my feeling is that an occasional repetition of the curettage is preferable to radiotherapy in all except a very small percentage of cases. With few exceptions in this group of pubertal cases, the endocrine balance will adjust itself after a time, and menstruation will become normal.

The same general plan may be followed with somewhat older patients, in whom, however, the conservation of the menstrual and reproductive functions is still important. During the existence of this type of functional disorder, sterility is the invariable rule, for ovulation does not occur. Many patients, however, have borne one or more children before the beginning of this dysfunction, and many bear children after the functional readjustment occurs. Each case must be decided on its individual merits, always bearing in mind the undesirability of risking permanent abolition of ovarian function in young women through radiotherapy, which is such a boon where the factor of ovarian conservation is unimportant, and which, moreover, is justified in carefully regulated dosage in some of the younger group in whom more conservative measures fail.

Hysterectomy is rarely indicated in the treatment of functional hemorrhage *per se*, but is fully justified in the older group of patients when simpler measures fail, and when there is some other indication for laparotomy, such as recurrent appendicitis or a troublesome ventral hernia.

Finally, it is worth while mentioning that in severe cases of functional hemorrhage, in which transfusion is called for, it is a great advantage to use as a donor a pregnant woman, preferably between the third and fifth months of pregnancy. This is not always feasible, but when it is, a double purpose is served by the transfusion, which supplies the patient with much-needed blood, while the latter is rich in the pregnancy hormones which seem to be so valuable in the treatment of this disorder.—*Novak, Texas State J. Med., Aug. '38.*

Transfusions in Otology—The use of blood transfusions in the treatment of septicemia of otitic origin, as well as from some other cause, has generally been accepted. There is a stimulation and response that cannot be denied as well as a steadying and slowing of the pulse with drop in temperature that denotes a benefit to the resistance and responsive powers of the patient.—*Lynch, New Orleans M. & S. Journal, August 1938.*

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THE "FIVE-POINT" PROGRAM OF THE TECHNICAL COMMITTEE ON MEDICAL CARE

The recent National Health Conference held in Washington, upon the call of Miss Josephine Roche, Chairman of the Interdepartmental Committee to Coordinate Health and Welfare Activities, brought together representatives of many diversified interests; physicians and officers of the American Medical Association, the American Public Health Association and correlated professions; representatives of labor, welfare, farm bureaus, hospitals, editors, government employees, as well as others.

At this time, the Technical Committee on Medical Care, composed of Dr. Joseph W. Mountin, Dr. Clifford W. Waller and Mr. George St. J. Perrott of the United States Public Health Service, Dr. Martha Eliot of the Children's Bureau, and Mr. I. S. Falk of the Social Security Board submitted for consideration and discussion, but not for definite action by the group, five recommendations embracing possible approaches to a solution for existing nation-wide deficiencies. One sees at a glance that the problems under consideration were so stupendous, complex and of such manifold ramifications as to defy formulation of definite

rules of policy or procedures, or of "blue-printing" fixed rules for action by any group or combination of groups. In no sense did this appear to be the purpose of the conference. However, the "five-point" program presented—which more properly might be viewed as suggestions as to possible approaches to a nation-wide solution for all the problems involved, including public medical services as well as public health services—brought into the picture the possible use of governmental health insurance plans, formulated by and within each state, aided by federal grants-in-aid. (Recommendations III, IV and V.) While it is true that plans somewhat similar to those suggested in these recommendations are now in operation in England and on the European Continent, neither the majority of the general public nor of the medical profession in this country are yet persuaded that, despite palpable gaps and deficiencies in the present methods of dispensing medical care, such an approach is necessary or justified; at least not until further exploration, testing and revamping of what is now being done and whose foundation rests upon years of experience and evolution prove their unsuitability to meet the present demands of society. History teaches that for the ultimate good, socio-economic problems of such far-reaching scope are best solved through the evolutionary, rather than through the revolutionary, approach.

A study of the recommendations made by this Committee reveals that a consideration of these proposals may suitably fall under two headings: Recommendations III, IV and V deal with public medical care for the needy and medically needy and with ways and means of financing such a program, and of providing disability compensation. It is to the problems falling within this category that the comments made above apply, and, for the proper solution of which, further knowledge and exploration are clearly in order. Suggestions embraced in Recommendations I and II deal more specifically with problems directly related to the public health and for the administration of which approved and tested plans already exist.

The suggestions contained in the Committee's first recommendation have to do with a further expansion and strengthening of activities now being conducted jointly and cooperatively by existing federal and

state agencies in the fields of general public health and maternal and child health services. For years state health officials, tussling single-handed and unaided with these tremendously important problems within their several states, clearly saw the need for concert of action by state and federal authorities, if real and satisfactory headway were to be made in the health field. These views had the full sympathy and accord of the federal agencies in Washington whose primary interests lay in the health field. On more than one occasion was the Federal Congress importuned to take heed of these nation-wide needs and to extend financial and advisory aid to states in their efforts to master these problems. Seemingly, public sentiment, feverishly concentrated upon the need for more and better roads and other more material things, could find but little time for concentration upon the humanities. Then came a rather precipitous awakening—The Social Security Act—carrying with it provisions for doing what leaders in the medical and public health field felt was long overdue, viz., more liberal cooperation and aid to states in the broad and expanding field of public health. While such federal participation has existed but three years—The Social Security Act becoming law in 1935—seemingly enough good has come from it to warrant this Committee in suggesting that this base-line of attack be materially broadened, so that public health might further be strengthened and more intensified programs developed in all the states, in order to bring under control such common enemies of mankind as tuberculosis, the venereal diseases, cancer, pneumonia, malaria, and maternal and infant deaths.

It is believed that such an expanded program, sanely and wisely conceived and administered, with full consideration given to the practising medical profession, upon whose members will fall the major portion of the clinical execution of service to individuals, can be satisfactorily worked out. In truth, if organised effort at control is to be put forth in the newer fields of cancer, pneumonia, the venereal diseases and maternal and child health, no program can hope for ultimate success, which does not give recognition to, and make full utilisation of, the trained and professional expert, who, in the last analysis, is to deliver the

service to the individual. Consequently, it is felt that with the satisfactory start already made and the administrative machinery already existing, such expansion as suggested in this recommendation offers promising possibilities for advancement along these important sectors.

The suggestions embraced in the second recommendation open up a new and hitherto unexplored field on the part of the Federal Government. It specifically deals with the deficiencies found to be now existent, from a careful nation-wide survey, in adequate hospital facilities to care for the necessitous or near-necessitous individual when in need of hospital care. Exclusive of the more populous urban centres and a few of the more affluent states, this deficiency undoubtedly exists over wide stretches of our country, reaching, most likely, its climax, in the rural and agricultural states of the South. The writer, speaking for his own state, feels that more adequate hospital provision—both in the field of general hospital facilities and specifically for the tuberculous—constitutes one of Alabama's most urgent needs. In voicing this view, he feels that he is expressing the sentiment of the organised medical profession, which in this state constitutes the State Board of Health. The majority of the hospitals scattered through this state are small, privately owned and financed through fees collected from the individual patient. In many counties, particularly the more rural ones, little or no provision is made for financing the hospital needs of the necessitous case. While it is true that governmental agencies—state, county and municipal—are somewhat slowly awakening to this need, federal financial participation in such a nation-wide program would serve not only as an aid but also as a stimulus to states in the more quickly attaining a much-to-be-desired goal. Such a plan, carefully studied as to each state's needs, and its administrative features arranged for with the counsel and advice of the medical profession and the official health forces within each state, should go far towards remedying one of the existing deficiencies in present efforts at protecting the nation's health.

It would appear, therefore, that if the suggestions embodied in these two recommendations—that of expanding broadly activities within the public health field and of

stimulating and promoting a nation-wide program for better hospital care for the needy and medically needy—were seriously and cooperatively undertaken by all forces concerned—government, the people and the medical profession—not only could much real progress be made, but time afforded for further exploration and study in an admittedly difficult field of sociology. Furthermore, concentration of effort within these two fields might well prove a potent antidote to the dangers of regimentation lurking in recommendations embraced under III, IV and V.

CHRONIC BROMIDE INTOXICATION

“Chronic bromide intoxication is a widespread and common condition, but it is familiar to relatively few physicians. This is due, in part at least, to the fact that in standard textbooks of internal medicine it is not described. Dermatological texts present the skin lesions of bromidism (which are found in approximately one-fourth of the patients suffering from chronic bromide intoxication) and the psychiatrist is familiar with toxic psychoses due to bromide poisoning, but the internist frequently fails to consider bromide intoxication in his differential diagnosis. The result is that many puzzling neuropsychiatric cases are incorrectly diagnosed and not a few are wrongfully committed to psychopathic hospitals.” Thus do Hanes and Yates¹ begin their excellent consideration of this very widespread and frequently overlooked condition.

The authors state that within the past six and one-half years bromide in abnormal amounts has been demonstrated in the blood of more than seven hundred patients of the Duke Hospital, or approximately .9 per cent of the total admissions. And they also assert that accurately controlled studies of bromide intoxication date from 1927, when Wuth described a simple method for the determination of bromide in the blood. “Bromide determinations are now made in this clinic with almost routine regularity on neuropsychiatric patients. We have found the information obtained comparable in

helpfulness to that furnished by the Wasermann test. It is an absolutely indispensable aid in the diagnosis of a most puzzling group of cases. For, although experience may sharpen one’s suspicions, the clinical manifestations of bromide intoxication are so varied and withal so subtle, simulating every neuropsychiatric condition, that only the positive evidence of bromide in the blood can substantiate the tentative diagnosis. Fortunately, blood bromide determinations are not difficult.”

Bromide intoxication, the Durham investigators inform us, may be mild, severe, or even fatal. A low intake of sodium chloride favors the accumulation of bromide ions in the blood. Treatment, which is simple and efficacious, consists of sodium chloride. The authors begin by giving from 9 to 12 grams by mouth daily. They find that intravenous saline is not desirable and is rarely needed.

The authors inform us that “some of the worst poisonings we have observed have occurred in doctors’ families, and many of our patients have been sent for study by excellent physicians who had been treating mild symptoms with continuous bromide therapy. Not infrequently such patients had developed mental symptoms justifying the diagnosis of a major psychosis, and were brought for observation before being committed to an institution.” And they further assert that “approximately 5 per cent of admissions to institutions are due to readily curable bromidism.” The authors also direct our attention to the fact that “the sale of bromides is not controlled by law and an analysis of physicians’ prescriptions, made by the American Pharmaceutical Association, revealed that only acetylsalicylic acid is prescribed more frequently. Such prescriptions are readily refilled, leading often to prolonged self-medication by the patient.”

Bromide is an old remedy and a deservedly popular one. Every practitioner has seen patients who suffered from bromide intoxication. But accurate and painstaking studies, such as those of Hanes and Yates, make it evident that more cases were overlooked than correctly diagnosed in the past. It is quite possible that the use of bromide has increased during the last few years because many physicians, noting the havoc wrought by the excessive and indiscrimi-

1. Hanes, Frederick M.; and Yates, Anne: An Analysis of Four Hundred Instances of Chronic Bromide Intoxication. *South. Med. J.* 31: 667 (June) 1938.

nate use of the barbiturates, amidopyrine and the rest of the legion of new synthetics, have again begun to prescribe bromide. And now evidence has been accumulating for several years to the effect that even bromide is less innocuous than it was formerly thought to be. Certainly it would seem that the time has come for practicing physicians to be on the alert in regard to prescribing bromide and to observe carefully those patients who are taking it and to warn them of its possible ill effects.

In this connection, the article in this issue of the Journal on a study of blood bromide by Miss Georgia L. Johnson, Medical Technician of Bryce Hospital, Tuscaloosa, is of interest.

Committee Contributions

PREVENTION OF CANCER

EXAMINING FOR CANCER

Early diagnosis of cancer will give patients a chance for early treatment which will mean cure in the majority of cases. Early diagnosis is dependent upon several factors: first, that the patient comes to the doctor early in the disease; second, that the physician give the patient a thorough physical examination; third, that a pathologist be available for diagnosis of biopsies.

The present programs for lay education, with stress being placed on the value of periodic examinations as well as examinations when symptoms are present, should bring more patients to the physicians in the pre-cancerous or early cancerous stages.

When the patient has reached the physician's office the next step is up to the physician.

Frank Adair, M. D., in Southern Medicine and Surgery, August 1937, has given us "Ten Golden Rules of the Cancer Examination" which if used as a guide would be of great help to the physician as well as the patient.

TEN GOLDEN RULES OF THE CANCER EXAMINATION

1. Examine the lips, tongue, cheeks, tonsils and pharynx for persistent ulcerations, the larynx for hoarseness and the lungs for persistent cough.

2. Examine the skin of the face, body and extremities for scaly, bleeding warts, black moles and unhealed scars.

3. Examine every woman's breast for lumps or bleeding nipples.

4. Examine the subcutaneous tissues for lumps on the arms, legs, or body.

5. Investigate any symptoms of persistent indigestion or difficulty in swallowing. Palpate the abdomen.

6. Examine the lymph node system for enlargement of the nodes of the neck, axilla, or groin.

7. Examine the uterus for enlargement, lacerations, bleeding or new growth. Make a bimanual examination to determine the condition of the ovaries.

8. Examine the rectum, and determine the cause of any bleeding or pain.

9. Examine the urine microscopically for blood.

10. Examine the bones and roentgenograph any bone which is the seat of a boring pain, worse at night.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

A COMMUNICATION FROM THE PRESIDENT OF THE ASSOCIATION

RE: DESIRABLE OBJECTIVES TO BE ATTAINED BY THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA DURING THE COMING YEAR

To All Members:

One of the desirable objectives to be attained by the Medical Association of the State of Alabama for the coming year is to increase the attendance of, and interest in,

the regular meetings of our county medical societies and those of the four divisions. Each physician can, and should, do his part in consummating this hoped-for improvement by attending and by participating in the discussions of these meetings.

While a large proportion of the qualified physicians in Alabama are already members of the county medical societies, there

are some in most of the counties who are not affiliated with the other physicians in raising the standards of the medical profession. They also are denying themselves the social privileges of membership in a county medical society. Will you not join with other members of your society in bringing into the organized medical profession physicians who are eligible to membership?

Every alert and interested physician should appreciate the tremendous possibilities of the preventive aspects of modern scientific medicine as these pertain both to the individual and to the community. In his routine daily ministrations he subconsciously, if not consciously, applies these principles. Through a greater familiarity and cooperation with the official health agency of his community, of which he is legally an integral part in this state, not only is he broadening his scope of usefulness, but he is contributing to the erection of effective barriers against the clamorous efforts of those who advocate the taking over by government of the practice of diagnostic and curative medicine.

Data Regarding Medical Care of Indigent Sick

The plea for state medicine in the United States, as practiced in England, France, Germany and Russia, is premised upon data for propaganda collected by those who favor socialized medicine. The American Medical Association, in the endeavor to protect the medical profession and the free-born citizens of the United States from the evils of Europeanized medicine, is now assembling correct data regarding medical care in every county and state in the Union. You can and should do your part towards getting at the truth regarding the number of persons in your county who, because of poverty, or small incomes, are denied medical attention under the present system of the practice of medicine, if you will fill out promptly and fully the blanks that were sent you recently by the secretary of your medical society.

None of us can give all the information requested in the questionnaire sent out by the American Medical Association, but every physician can fill out the blanks to the best of his ability. If the intent of any question is not clear, do not attempt to answer it; but please reply to all inquiries to

which you can give the desired information and return the filled-in blanks to the secretary of your society at your earliest convenient moment.

The Long Delayed Sims Monument

Another objective for the Medical Association of the State of Alabama during the coming year is to erect a suitable monument to Marion Sims, whose achievements, begun and carried out in Montgomery nearly a century ago, are a priceless heritage to American surgery. Our Association at the Mobile meeting, out of its surplus, appropriated \$1,000.00 towards the Marion Sims Memorial, provided the Committee, of which Dr. James R. Garber is Chairman, raises at least \$1,500.00 additional.

Dr. Garber informs me that an artist has been employed to prepare the model for, and to supervise the construction of, a bronze statue of Sims, with an appropriate pedestal. Therefore there is reason to hope that an outstanding feature of the meeting of the Medical Association of the State of Alabama in Montgomery next April will be the unveiling of a fitting monument on the Capitol grounds to commemorate the fame and the achievements of the greatest surgeon that America has produced.

The Four-Year Medical School

The members of the State Medical Association can serve our state, and the medical profession, by participating actively in the movement for a four-year medical school in Alabama; and the next State Legislature, if the State's revenues permit, should do its duty by appropriating sufficient funds for that purpose. Such an institution will call for ample hospital and clinical facilities for teaching in the third and fourth years of medicine, regardless of where a complete medical school or centre might eventually be located. Careful consideration to the maintenance costs of these necessary adjuncts should be given both by the Legislature and by all interested.

Most of the states now provide some sort of aid for the hospitalization of the indigent sick and, in many, such aid is extended to institutions for teaching purposes. Louisiana appropriates more than \$2,000,000 annually to the Charity Hospital in New Orleans and to the medical department of her State University, and Mississippi appropri-

ates about \$600,000 annually for state charity hospitals. Such a complete medical centre for teaching purposes in Alabama might materially aid in solving the present shortage of physicians in the rural and more sparsely settled areas of our state, to which attention has recently been directed by Dr. J. N. Baker, our State Health Officer, and by Dr. Stuart Graves, Dean of the Medical Department of the University of Alabama.

Josiah Nott, a great surgeon and first to suggest the mosquito transmission of yellow fever in 1858, George A. Ketchum, a medical statesman, Jerome Cochran, a great medical organizer and sanitarian, and Gaines, Toxy and the other great physicians who founded the Medical College of Alabama—chartered as the Medical Department of the University of Alabama in 1858—in their wisdom provided scholarships for medical students from each county in the state. Therefore the Mobile Medical School in its 65 years' record of training physicians solved the problem of the distribution of doctors in the rural districts. Thus it is that today in every county in Alabama, almost without exception, among the leading and most useful physicians are graduates of the Medical College of Alabama. Likewise the graduates of the Birmingham Medical College, during its twenty years of history, rank with the best and most successful physicians in Birmingham and northern Alabama.

Unfortunately many of the oldest graduates of the Medical College of Alabama and the Birmingham Medical College—representing half the doctors of the state a score of years ago—have passed on; and many of the younger graduates of the Alabama medical schools will approach the retiring age in one or two more decades, and there are few young physicians in Alabama to take their places. It therefore is important to establish a four-year medical school before the shortage of doctors becomes a really serious menace to the welfare of the citizens of Alabama.

Dr. W. D. Partlow, medical statesman, Superintendent of the Alabama Insane Hospitals and Chairman of the Committee of the University of Alabama Alumni Association to promote the establishment of a four-year medical school, went to the foundation of the problem when he said:

"Long years of observation convince me that medical education is a fundamental basic function of our state government, and a matter of policy secondary to which and dependent upon which are our other state agencies, including our educational institutions and public health. If we are to continue to staff our institutions with high class medical personnel and continue to maintain high standards of progressive, well-trained administration of our sixty-seven county health units, under the able administration of our efficient State Health Officer, the important first step toward such a goal is a four-year medical school for such training."

Certainly no more urgent problem faces Governor Dixon and the next Legislature than to find the money to establish and maintain a four-year medical school and a state charity hospital to be used in training Alabama's young men to practice the art and science of medicine in their home state.

Appropriations for the State Health Department

Every physician in Alabama should be proud of the fact that our state is outstanding in having health units and a full-time health officer in each one of its 67 counties. An increase in the present appropriation for protecting the citizens of Alabama from preventable diseases will be necessary for maintaining and improving the efficiency of the completed and expanded state-wide service. The Medical Association of the State of Alabama constitutes the State Board of Health of Alabama, with the State Health Officer and the Committee of Public Health acting for the Association in the interim between our annual meetings.

The State Board of Censors, acting as a State Committee of Public Health, and the State Health Officer have already furnished to each member of the Legislature an outline of the financial needs and plans of the Health Department during the coming four years. For the information of the profession, this communication was published in the August issue of the Journal, under the Association Forum.

The Doctor's Duty as a Citizen of Alabama

Each member of the State Medical Association should take sufficient time to contact the legislators from his county and his state senator, and tell them of the necessity for adequate support of the State Department of Health and the county health units.

It would be helpful to invite the legislators and your state senator to attend a meeting of your society to discuss appropriations for the State Board of Health and for a four-year medical school.

We have every reason to be proud of the achievements of our State Medical Association and our State Department of Health. But if we would hold to what we have in organized medicine and make further prog-

ress in our efforts to serve mankind, each individual physician must do his part by participating whole-heartedly in the work of his county medical society, and by co-operating in every way possible with his local county health department in protecting the public from preventable diseases.

Fraternally yours,
Seale Harris,
President of the Association.

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

J. N. Baker, M. D.
State Health Officer in Charge

ALABAMA'S TUBERCULOSIS PROBLEM

Tuberculosis is responsible for the death of approximately 1,800 Alabamians every year and the number of active cases of the disease among the people of the State is conservatively estimated at six to eight times that number. In spite of gratifying progress made in antituberculosis work during the past few decades, notably since the turn of the century, it is still killing and making invalids of more Americans during the best years of their lives than any other disease. If it were possible to bury in one huge cemetery all the American officers, army nurses and enlisted men who were killed in action in the World War between April 6, 1917 and November 11, 1918, and in another huge cemetery all the Americans who died last year of tuberculosis, the latter cemetery would contain a much larger number of graves than the former.

In a successful campaign against a major killer like tuberculosis, there are two vital steps to be taken: first, diagnosis, or the finding out of those who have the disease; and second, providing proper and adequate treatment, so that the patient may recover his health and return as quickly as possible to usefulness and economic self-support.

Like most states, Alabama has provided a comprehensive diagnostic service. For the past several years, tuberculosis experts, in the service of the State Department of Health, have been conducting clinics, or disease detective agencies, in all parts of the state. In this work they have received splendid cooperation from local physicians,

local health departments and other interested citizens.

But diagnosis alone, important as it is, cannot conquer or materially control a disease like tuberculosis, any more than merely getting a list of the hungry people in a neighborhood will prevent them from starving to death. After you get the names and addresses and determine the lung condition of several thousand Alabamians found to have active tuberculosis—what next?

Until recently the state of Alabama had no proper answer to that arresting question. Bowing to the stern demands of a depleted treasury, it left to the counties the entire responsibility of providing treatment for those needing it—some of them needing it desperately and imperilling the health of their families and associates. To its 67 counties it said in effect: "I have found the tuberculosis cases among your citizens. It is up to you to see that they are treated and restored to health and usefulness, if possible."

A few counties—seven, to be exact—accepted this challenge and set about providing sanatorium care for their people, especially for that overwhelming majority who must be cared for, if at all, at public expense. A few additional counties have assumed responsibility for their tuberculosis cases by maintaining beds for their tuberculous residents in sanatoria situated in one of the aforementioned seven counties. Jefferson County provides a modern institution of 90 beds. Montgomery County now also provides 90 beds. Mobile County provides beds for 45 patients. Morgan County has 35 beds and Jackson County has 15 beds, some of which have been supplied and are financed by adjacent counties for

their own cases. Gadsden, Etowah County Sanatorium, has been closed for renovation and has just opened with 10 beds. Anniston, in Calhoun County, has now a 15-bed hospital for tuberculosis cases for that area.

As Alabama is one of the three Southern States not having state tuberculosis sanatoria, there are thus only 300 sanatorium beds now in use in the entire state. Some of Alabama's sister-states of the South, no more populous or wealthy than she, have provided two or three times as many beds as that in state sanatoria alone, to say nothing of additional hundreds of beds to be found in county and district sanatoria here and there. And even without making any comparison with other states, it is quite easy to see that Alabama's 300 beds are woefully inadequate to care for the needs of a state having an estimated 15,000 or 16,000 active cases of tuberculosis and about 1,740 tuberculosis deaths every year.

In 1931 the Legislature passed, and the Governor approved, the Patterson Act calling for state aid in the maintenance of county sanatoria in the expectation that, thus aided, many counties would open such institutions of healing to their tuberculous residents. The Act stipulated that, to receive the so-called state subsidy of 75c per day per patient, a county must construct and maintain a suitably equipped sanatorium containing at least 25 beds. To insure proper management and the wise expenditure of state, as well as county, funds, it provides that the sanatorium must be managed by a committee of five public-spirited citizens, two of whom must be the county health officer and a reputable physician actively engaged in the practice of his profession. It provides that, in cases where a county is unable or unwilling to maintain its own sanatorium, it may cooperate with one or more neighbor counties, each county being entitled to the use of the agreed-upon number of beds for its own patients. In order that facilities may be provided for tuberculous residents of counties not having sanatoria, the Act requires that 15 per cent of the total bed capacity of a county or district sanatorium be made available to patients living outside the county or counties operating the institution. High standards will be set up for the operation of all sanatoria qualifying for state financial aid. And, finally, the Act provides that a sum not

exceeding \$75,000 annually of state funds be made available for county-sanatorium subsidies, when, in the opinion of the Governor, the condition of state finances permitted such an outlay to be made.

Any one familiar with Alabama state finances during the past several years does not need to be told that, with drastic curtailment of expenditures in all normal agencies of state government, including public health work, in order to keep the state's expenses in line with its income, neither the Governor nor any one else could find state funds to carry out the purposes of the Patterson Act.

In 1935, however, the county-sanatorium subsidy plan was revived. The Patterson Act of 1931 was amended to the extent that, instead of promising a flat sum of one dollar per patient per day to the counties, the state would agree to meet one-half of the cost of the care and treatment of every indigent patient in county sanatoria up to 75 cents per day.

In 1935 and 1936, as in 1931-1934, state finances were such that no funds were available to implement the measure. So again the plan had to be held in abeyance. Those counties dependent upon financial assistance from the State for the opening of their sanatoria had to postpone their building plans, and those that had built sanatoria on the strength of expected state aid continued to struggle along as best they could on the limited county funds available.

Happily, this financial handicap has been removed. Thanks to increased revenues made possible by recently imposed taxes, including the sales tax, the state treasury has been able to make available funds needed for carrying out the purposes of the Act of 1931, as amended in 1935. The current appropriation for this specific purpose is \$75,000 a year, which makes it possible for each sanatorium to receive up to 75 cents per day for every patient under treatment, provided this sum is matched by funds raised locally. The State Department of Health plans an expansion of its sanatorium subsidy program with the purpose of making possible the establishment of from six to twelve additional district sanatoria of some 50-bed capacity each. As this program gets under way, it will be seen that a somewhat larger financial participation of the state in the maintenance of these institutions will be called for. It is hoped that its subsidy can

be increased to one dollar per day, the amount provided by the Act as passed in 1931. To make this expanded tuberculosis control program possible, and thus make possible modern sanatorium treatment for thousands of residents of the state now denied such life-saving care, it is hoped that the present allotment will be increased gradually over a period of several years in order to keep step with the contemplated increase in the number of institutions requiring financial assistance from the state.

Here, then, is the realization of a dream that has inspired Alabama's health enthusiasts for many years. At last the way is clear for any county to provide, either in its own institution, or in one maintained in cooperation with one or more counties, modern and adequate facilities for the successful treatment of those of its people who have been stricken down with tuberculosis. It would seem that a beginning can now be made in the big problem of providing some sort of hospital facilities for at least some of these many unfortunates within our state.

THE GREENE COUNTY HEALTH DEPARTMENT

When visitors enter a County Health Department they are impressed by the cleanliness and neatness of the office, its furnishings and equipment, probably more than anything else, and naturally so. If there is any one place in a community where one would expect to find everything clean and in order it is the County Health Department.

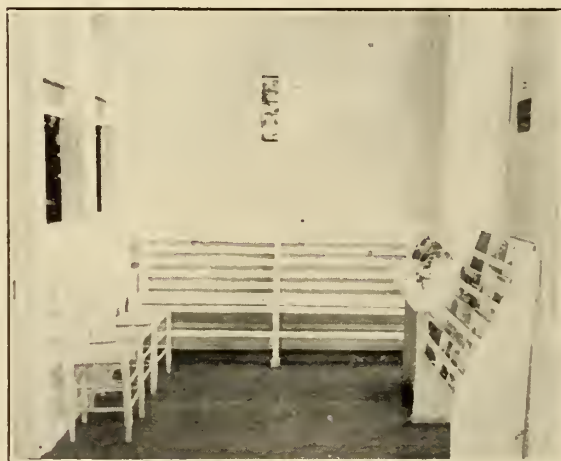
When a member of the Health Department staff visits a home in the county the first thing that is looked for is cleanliness of the house and of the persons living in the house; therefore, when those people come to the Health Department they will expect to find it a shining example of cleanliness.

It is true that some departments are more fortunate than others in obtaining suitable quarters, but the appearance of the least pretentious office can be improved, and the time and energy spent in improving it is to the credit of the Health Department staff and sets an example to the rest of the community.

The pictures which follow were taken in one of the newer County Health Departments, namely, the Greene County Health

Department at Eutaw, Alabama, and shows some of the results of the efforts of the staff to maintain a bright, clean and orderly office.

The first picture shows the waiting room; the second a view of the rest of the office from the waiting room; the third shows the nurse's work cabinet-table and her maternity and infancy spot map; while the fourth shows the utility table in the clinic room on the day that a demonstration of the various immunizing and skin testing agents, venereal disease drugs, etc., was given.



Waiting Room



Looking Backward from the Waiting Room

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

JULY 1938

SPECIMENS EXAMINED

Examination for diphtheria bacilli and Vincent's	657
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	1,088
Typhoid cultures (blood, feces, urine)	1,418
Examinations for malaria	2,875
Examinations for intestinal parasites	2,032
Serologic tests for syphilis (blood and spinal fluid)	15,787
Darkfield examinations	36
Examinations for gonococci	1,596
Examinations for tubercle bacilli	1,451
Examinations for Negri bodies (microscopic)	117
Water examinations (bacteriologic)	891
Milk examinations	1,883
Pneumococcus typing	3
Miscellaneous	959
Total specimens	30,793

THE QUANTITATIVE KAHN SPINAL FLUID TEST IN SYPHILIS

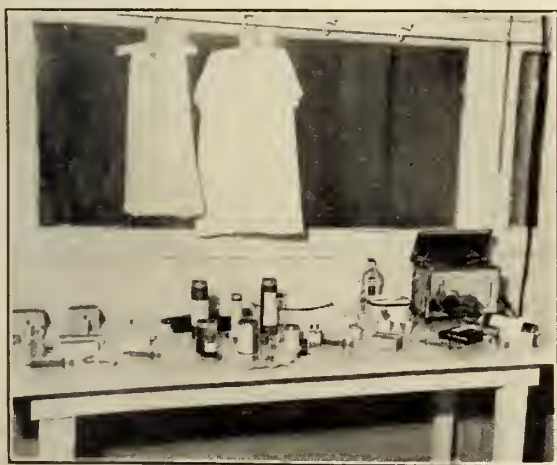
The quantitative Kahn spinal fluid test is not intended for diagnostic purposes, the standard Kahn spinal fluid test serving as the more practical aid in diagnosis. The chief value of the quantitative test lies in the fact that it gives the physician a possible clue as to the response of the patient to treatment.

The titration of a positive spinal fluid to determine the maximum dilution at which a positive reaction is obtained and from this dilution to calculate the potency of the fluid in reacting units gives a sound basis on which degrees of "positivity" may be compared. This is not to be taken to mean necessarily that a patient whose spinal fluid shows 4 reacting units is less syphilitic, or will require less treatment than will the patient whose spinal fluid shows 20 reacting units; both patients are syphilitic, the probability being, since there has been less cellular response in one patient (4) than in the other (20), that the degree of central nervous system involvement is less in the one than in the other. Nothing can be said concerning the amount of treatment necessary to bring either to negativity. The fall in reagin titer under treatment is often the only index to the success of the therapeutic regime.

Physicians wishing to have quantitative



In the Nurse's Office



Portion of Clinic Room

"It may be concluded that today the forefronts of mental hygiene are intensely interested in the prevention of mental disease, on the one hand, through clinical services to those whose problems are in the making, and, on the other hand, along public health lines, through influencing the cultural conditions to which people are subjected."

Kahn tests made on spinal fluid found positive by the standard Kahn procedure, and to use this laboratory aid in following the effect of treatment, should send their positive spinal fluid specimens to the Central Laboratory in Montgomery, plainly marking the specimen "*For Quantitative Test.*"

C. B.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

PRENATAL CLINICS

The maternal morbidity and mortality problem has come before the people of America with increasing frequency. Physicians have been concerned for several years over the high death rate of mothers and infants. Among the private patients whom the physicians see throughout the prenatal period the morbidity and mortality rate is considerably lower than for the country as a whole. But there are large numbers of women throughout the United States, as well as in Alabama, who never see a physician until the time of labor. Some of these women, even though they may realize the value of the prenatal supervision, because of economic reasons do not seek the care of a physician. A still larger percentage do not know the value of this necessary care. There is also the group who, for economic reasons or because of ignorance, are delivered by midwives. Thirty-six per cent of women in Alabama were delivered by midwives in 1936. The percentage varies with the counties, ranging from 1.9% to 92.2%. Forty-two per cent of the mothers having stillborn children were delivered by midwives.

All expectant mothers have a right to the best prenatal care available, and it was with this thought in mind that the Children's Bureau allocated Social Security funds to help start prenatal clinics for those patients who are considered indigent or cared for by midwives. These funds provide for a nominal sum averaging \$5.00 per clinic session for the physician.

The general plans for the prenatal clinics include a clinician—a local physician or physicians—who will be in charge of the medical supervision of the expectant mothers, giving them the necessary physical examinations, including a blood Wassermann test at the first visit, and the checkup exam-

inations necessary to provide for adequate prenatal care. Any patient who is sick enough to need medicine other than elimination does not come under the plan of prenatal supervision and will be referred to her physician for care, as the clinics are primarily for prenatal supervision and not treatment. Likewise, patients having any abnormal condition diagnosed postnatally which requires treatment will be urged to see their family physicians. The patients will be contacted by the county health nurse through the midwives who report their cases to her. She will also assist the clinician during the clinic hours and assist with the keeping of the records.

Patients will be given to understand that the physicians holding the clinics are not responsible for the delivery care. Arrangements for the care of the mothers during and after labor must be made by the mothers themselves. Any mother whose condition might necessitate the services of a physician at the time of labor will be advised to make arrangements with her family doctor for her care at that time. The clinics are held once a week or twice a month depending upon the need in the locality.

The requirements for organization of a prenatal clinic in any county are very liberal:

- (1) The county medical society must approve a prenatal clinic program.

- (2) There must be a physician or physicians who will be willing to conduct the prenatal clinics.

- (3) Sufficient records of each case must be kept in order to facilitate the care of the patient when the physicians change service.

- (4) The clinics are to be held at least twice a month.

- (5) A suitable place should be provided—a room or rooms with an examining table.

Often lay committees from clubs or other organizations are glad to cooperate by equipping the clinic and serving on transportation committees where the distances are too great for patients to walk to the clinic.

Thirteen of the sixty-seven counties in Alabama have prenatal clinic care available for the indigent and medically indigent mothers. In the counties where this service has been available for some time we find that there is less puerperal illness than previously.

E. F. D.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director
DIPHTHERIA

Since the beginning of the World War, 6,644 persons in Alabama have yielded their lives to diphtheria, a preventable disease. Although there has been a marked reduction in the annual number of deaths recorded during the past quarter of a century, the death toll is about 100.

Notwithstanding a great decline in the mortality rate, it was 75 per cent higher in 1936 (4.2 per 100,000) than the national average (2.4). A comparison of the rates for these two areas shows that the annual rate of decline has been about the same.

If the present rate of decline continues, it will not be before 1951, 13 years hence, that we shall reach a figure of 0.5 per 100,000. Several states have already done so. It is not possible to state the irreducible minimum, but it certainly lies below 0.5. A full-fledged program of immunization would cause a more rapid decline in the death rate and it would not be unreasonable to expect it to fall to 0.5 within a five-year period.

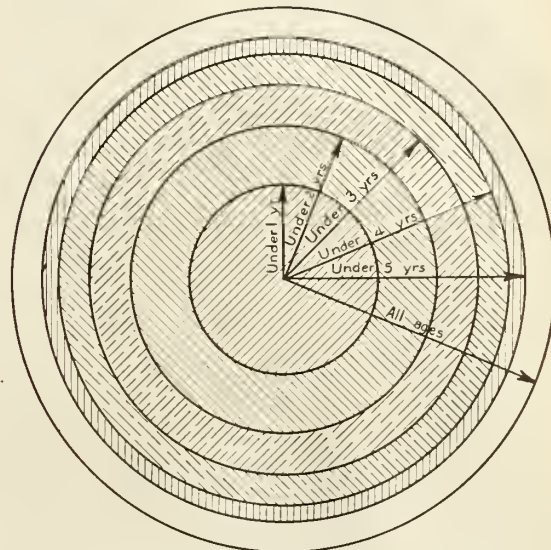
For many years the white rate has been approximately twice that of the colored. Thirty-six per cent of the population in Alabama is colored; in the United States Registration Area, 11 per cent. For that reason it is interesting to note that the white death rate from this disease in Alabama was 5.0 in 1936, considerably more than twice the United States figure. The provisional rate (3.4) for 1937 indicates that the final figure may be slightly below the expected one.

Eight out of 10 deaths in Alabama from diphtheria have been of children under five years of age. It is clear, therefore, where our efforts must be concentrated. The accompanying chart shows this most graphically.

During the three-year period (1934-1936), 12.0 per cent of the deaths were of infants under one year; 19.8 per cent, children one year; 19.3 per cent, two years; 17.9 per cent, three years and 10.8 per cent, four years.

More than 60,000 partial transcripts of birth certificates, commonly referred to as "birth notifications," are mailed parents of newborn infants. Attached to the notification is a request which reads as follows: "When the baby is six months old have your

doctor give toxoid to prevent diphtheria." This is received at the time the child is between three and four months old.



ALABAMA DEATHS FROM DIPHTHERIA
1934-1936

The winter months are rapidly approaching and with it will come a marked increase in deaths from diphtheria. During the three-year period (1934-1936), 48 per cent, or almost half, of all such deaths occurred during the last quarter of the year. The per cent distribution in the first, second and third quarters was 21.7, 8.7 and 22.1, respectively.

Every child is entitled to protection from this disease. Certain it is that one exposed to diphtheria who had been immunized would be much less likely to represent a potential death than a child that had not.

With the opening of schools there will be an increase in the incidence of this disease. All preschool examinations should include immunization against diphtheria unless the child has been immunized previously. If so, he should be Schick tested.

Early immunization may prevent as much as 85 per cent of the cases of this disease. To wait until school age would be a great mistake, since 4 out of 5 deaths occur before that time. From an economic standpoint it costs at least 10 times as much to prevent a case from terminating fatally as it does to prevent a case in the first place.

The State Board of Health is prepared to furnish, without charge, toxoid or Schick toxin, and will furnish antitoxin to indigents on written order from a physician.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

TYPHUS FEVER CONTROL IN ALABAMA

WHAT HAS BEEN ACCOMPLISHED BY APPLYING
KNOWN METHODS OF CONTROL

The number of cases of endemic typhus fever reported to the Bureau of Preventable Diseases for the first seven months of 1938 show a decided reduction over the number of cases reported during the same months of 1937. This is the first decrease noted in the incidence of the disease since 1934.

In the year 1933, typhus fever reached its peak in Alabama when 823 cases were reported.

A state-wide rat extermination campaign was conducted the latter part of 1933 and the early part of 1934. Following this campaign, a decided drop in the number of cases was noted, only 273 cases being reported for the year 1934. The success of this campaign in reducing the incidence of the disease definitely proved that typhus fever could be controlled by the suppression of rats.

Reports from the Bureau of Preventable Diseases in 1935 showed a slight increase in the number of cases recorded over that of 1934. The Department of Health realized that this increase would continue if steps were not taken to at least reduce the rat population, especially in the typhus fever area. An educational program was therefore sponsored through the press, radio, civic organizations, schools and colleges in order to inform the public as to the dangers of rat infestation and the necessity of rat extermination and rat proofing as a health protection measure. During 1935 extermination programs were carried on in several counties with Works Progress Administration labor. In each instance these campaigns lowered the incidence of the disease in the areas where they were operated. The same procedure was used during 1936. The public was becoming rat conscious and considerable rat proofing was done during this year.

A state-wide Works Progress Administration project for the control of typhus fever by the extermination of rats and rat proofing of buildings was submitted by the State Department of Health early in 1937 and was finally approved the latter part of the year with the following modifications:

1. Funds were not made available for the purchase of bait, poison or other materials.

2. Skilled workers for rat proofing and labor for extermination work could not be assigned to the project where preferred projects demanded all available men.

These restrictions have prevented the operation of projects in some of the more heavily infected areas of the state.

With the cooperation of the Works Progress Administration and communities, worth-while projects have been carried on in a number of counties.

The results obtained from these cooperative control programs will be noted by the following statistics from four counties in the infected areas:

BARBOUR COUNTY			
Year		Cases	Deaths
1936	-----	38	1
1937	-----	35	1
1938 (7 mos.)	-----	3	0
ESCAMBIA COUNTY			
1936	-----	16	2
1937	-----	18	1
1938 (7 mos.)	-----	1	0
HENRY COUNTY			
1936	-----	41	1
1937	-----	62	0
1938 (7 mos.)	-----	3	0
MONTGOMERY COUNTY			
1936	-----	28	1
1937	-----	33	1
1938 (7 mos.)	-----	5	0

In each county the reduction of cases for the first seven months of 1938 will be noted and to date no deaths have occurred in any one of these counties. There is no doubt but that this reduction is due to the control work. Two counties located in the same areas where control work was not carried on show an increase in the number of cases reported each year instead of a decrease. These are counties adjoining the counties listed above.

PIKE COUNTY			
Year		Cases	Deaths
1936	-----	45	1
1937	-----	36	2
1938 (7 mos.)	-----	16	1
DALE COUNTY			
1936	-----	13	1
1937	-----	36	1
1938 (7 mos.)	-----	11	0

A study of the results obtained in the control of typhus fever in the state reveals the following facts:

1. The reduction in the number of cases for the year is caused by the results obtain-

ed in counties where control methods have been applied.

2. That typhus fever can be controlled in the infected areas by intensive poisoning and trapping campaigns.

3. That the use of poison for killing rats does not increase the incidence of the disease as the rats generally die in their burrows burying the fleas.

4. Poisoning is the most effective and the least expensive method.

5. Typhus fever can be controlled by temporary measures but must be continued.

Trapping is a valuable adjunct to poisoning but is not economically feasible under normal conditions.

6. Rat proofing is the only permanent measure of control. Rodent control by rat proofing and sanitation is the only hope for a permanent reduction. This can be accomplished by rat proofing of existing structures, intelligent building in the future and strict regulations regarding the storing and handling of food products and the disposal of refuse.

A. J. P.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

OCCUPATIONAL DISEASE LEGISLATION AND THE MEDICAL ASSOCIATION

The establishment of the principle of compensation for occupational diseases has found much slower acceptance in this country than has that of compensation for industrial accidents. At the present time workmen's compensation laws are in operation in 46 states, and of this number 22 compensate for occupational diseases. In Alabama, occupational diseases are expressly excluded in the wording of the compensation act. That Alabama will join this rapidly increasing group of states which are extending their compensation laws is only a question of time, not of fact. Sufficient forces are now in motion to make it more than likely that legislation of this type will be presented to the next Legislature.

If this legislation, when adopted, is wisely conceived, clearly formulated and full advantage taken of the experiences of other states and countries, then, great good will accrue to all groups affected.

If, on the other hand, a contrary course is taken, or the drafting of such laws is dominated by one group, perhaps with unwise, selfish motives, to the exclusion of other affected groups, then great harm will fall on all sides. The *employee* may not be clear as to his just rights, or the delay and expense of obtaining them may be unbearable; he may be the victim of uninformed decisions or suffer from inadequate medical care. The *employer* may have large and unreasonable claims decided against him or be forced to pay exorbitant insurance rates because the law may not be clear in its provisions and, thereby, subject to unpredictable interpretations in the courts. Many industries have found it expedient to leave a community or state for these very reasons, and many others forced into bankruptcy.

As a result of these experiences there has been a tendency to over-emphasize the problem of occupational diseases and, only too often, reservation and constraint abandoned in the drafting of laws affecting them.

The third group most immediately affected by the passage of laws compensating for occupational diseases is, of course, the *medical profession*. It is with this group we are here largely concerned. But first, let us briefly examine the two methods commonly employed in providing compensation.

(a) *General Coverage*:—Under this type the law states, in effect, that all occupational diseases shall be compensated for. The principle is, of course, sound but in actual practice it often leads to error in administration and gross abuse of its basic purpose.

It is at once apparent that this method calls for a legal definition of the term "occupational disease." Here considerable difficulty is encountered in securing a definition which satisfies the intent and purpose of the law.

To cite an example, in New York state, where the "all coverage" method is in operation, there is now pending before the Court of Appeals the claim of a young woman against the Marcy Corporation for an occupational disease alleged to have been sustained by the claimant during the course of her employment. Her duties were to sell tickets for a motion picture theatre in a sidewalk booth which was heated by a small electric heater. Her claim states that her legs were weakened by the heating and that

she fell, breaking her ankle. The accident in which she sustained a broken ankle did not occur during the course of her duties so that her claim was based solely on an alleged occupational disease, of what she termed "drawing the blood out of my feet and making them weak," caused by her employment. The referee before whom the case was heard awarded compensation, which was affirmed by the Appellate Division. Unless this decision is reversed by the present appeal, a precedent will be set which gives some idea of what may be expected in the course of the administration of the New York Occupational Disease Law. This would clearly make it possible to hide general sickness and accident insurance, unemployment and old age insurance under the cloak of compensation for occupational diseases. Industry is not prepared to bear this load, nor should it be, under our present economic setup.

(b) *The Schedule Method*:—This method of compensation sets forth by schedule the exact diseases for which compensation shall be allowed and classifies the particular processes wherein such diseases may occur. For example:

<u>Disease</u>	<u>Description of Process</u>
1. Anthrax	1. Handling of wool, hide, bristles, hair or skins.
2. Lead Poisoning	2. Any process involving the use of or direct contact with lead or its preparations or compounds.

This method is definite, certain and not subject to additions or subtractions by the administrative agency, and the employer knows exactly the diseases for which he will be held responsible. This, quite naturally, encourages him to afford protection to his employees against the particular occupational disease hazard to be found in his plant.

It is very important that the schedules be complete, listing all known occupational diseases to which the employee may be subjected; this to be done by a competent medical board. It is also important that provision be made in the law for the medical board to add new occupational diseases, as the development of new industrial processes make such additions necessary.

According to best legal opinion and the opinion of those administering these laws,

the schedule method is by far the most satisfactory for employer and employee, and its administration is much simpler, less expensive and more equitable.

From what has been said above it is clearly manifest that it behooves the State Medical Association to take a leading part in the drafting of legislation of this sort, not only as a civic duty to see that legislation involving medical matters at least receives the counsel of medical men, but to see that conditions and stipulations inimical to sound medical ethics and practice are not incorporated in the law. This, unfortunately, was not done in the drafting of many of our present state compensation laws and as a result the ethical physician has been forced into many unhappy situations, whereas plenty of room has been given his less ethical brother to cut a wide swathe. In some states irregular practitioners, even, are permitted to treat compensation cases.

Perhaps the most important feature of occupational disease legislation is the provision for the creation of a medical board to determine and pass on controversial medical questions arising in the course of administration of the law. Since the ultimate success of this legislation will depend on this board, its selection should be done with great care and completely divorced from political patronage. Its members should be appointed by the governor from a panel of experienced physicians submitted by the State Medical Association. This board should, of course, work hand in hand with the agency administering the law and should serve as a liaison between this organization and the Association.

Before legislation of this type is finally adopted many other provisions which should be of interest to the medical profession must be worked out. The question as to whether or not there shall be a fee schedule and, if so, what it shall be; the question as to free choice of doctor, and, if not, the method of selecting physicians who will practice under the Act; the question of rehabilitating injured workers.

These are only a few of the provisions which will have to be considered in the drafting of the law. This will be done either with or without the interest, counsel, or cooperation of the medical profession. It depends entirely on our vision and

willingness to take an active part. The time is now ripe, and, with the experiences of other states to guide us, a magnificent opportunity presents itself to see that Alabama is not inflicted with the incurable evils which so frequently attach themselves to occupational disease compensation laws.

W. F. Q.

SEMINAR AT HOT SPRINGS

During the week of October 16th a general seminar on venereal disease control work will be held in Hot Springs, Arkansas. It had been planned for sometime to have a meeting of laboratory directors and serologists on October 21st and 22nd in Hot Springs. This seemed to be an ideal time and place to hold a general seminar on venereal disease control work since the original planned meeting could be broadened to include all phases of venereal disease control.

The United States Public Health Service operates a large venereal disease clinic in Hot Springs. Indigent patients from all over the United States present themselves at the clinic for treatment. One may see all the typical clinical manifestations of syphilis, gonorrhea and other venereal diseases.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA 1938			
	June	July	Estimated Expectancy July
Typhoid	40	84	133
Typhus	23	51	24
Malaria	564	650	832
Smallpox	11	3	1
Measles	458	181	69
Scarlet fever	23	45	40
Whooping cough	242	204	144
Diphtheria	25	49	46
Influenza	36	69	15
Mumps	50	24	21
Poliomyelitis	13	21	6
Encephalitis	4	2	2
Chickenpox	59	21	12
Tetanus	6	4	7
Tuberculosis	250	299	291
Pellagra	124	128	89
Meningitis	16	17	4
Pneumonia	149	124	58
Syphilis	2092	2251	215
Chancroid	8	9	8
Gonorrhea	305	334	193
Ophthalmia neonatorum	3	0	2
Trachoma	0	0	0
Tularemia	0	0	1
Undulant fever	5	8	4
Dengue	2	0	0
Amebic dysentery	2	1	0
Rabies—Human cases	1	0	0
Positive animal heads	68	41	

*As reported by physicians and including deaths not reported as cases.
The Estimated Expectancy represents the median incidence of the past nine years.
With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

Summer meeting of the Southwestern Division of the Association was held at Monroeville July 28, with the vice-president, Dr. A. B. Coxwell, presiding. "Toxemias of Pregnancy" were discussed by Dr. B. Hartwell Boyd, Emory University, Atlanta; and "The Management of Functional Heart Disorders" by Dr. Seale Harris, Sr., Birmingham, President of the Association. Others participating in the program included Dr. K. E. Luckie, Selma, "The Significance of Abdominal Pain"; Dr. G. O. Segrest, Mobile, "Thyroid Heart Disease"; Dr. Frank W. Pickell, Brewton, "Burns: Fundamentals of Successful Treatment"; and Dr. C. L. Rutherford, Mobile, "The Postoperative Treatment of Laparotomies."

At 7:30 P. M. dinner was served at the Legion Club House, followed by a dance.

* * *

The new research building of Abbott Laboratories, North Chicago, Illinois, will be dedicated October 7th. Speakers include Dr. Thomas Parran, Surgeon General of the United States Public Health Service, and Dr. Morris Fishbein, Editor, Journal of the American Medical Association.

* * *

The Southeastern Division of the Association met in Dothan August 11, under the vice-presidency of Dr. C. P. Hayes of Elba. Essayists were Dr. G. R. Smith, Ozark, "Treatment of Chronic Ulcers"; Dr. Hugh Dent Johnson, Montgomery, "Modern Management of Acute Intestinal Obstructions"; Dr. C. R. Bennett, Eufaula, "Coma, and Its Differential Diagnosis"; Dr. A. E. Thomas, Montgomery, "Treatment of Syphilis in Pregnancy"; and Dr. J. L. McGehee, Professor of Surgery, University of Tennessee, Memphis, "The Use of Living Fascial Transplants in Repair of Certain Types of Hernia."

* * *

The annual meeting of the American Association for the Study of Goiter for this year was held in Washington, D. C., September 12, 13 and 14 in conjunction with the Third International Goiter Conference.

* * *

The 17th annual scientific and clinical session of the American Congress of Physical Therapy was held cooperatively with the 22nd annual convention of the American Occupational Therapy Association, September 12, 13, 14, and 15, 1938, at the Palmer House, Chicago. Preceding these sessions, the Congress conducted an intensive instruction seminar in physical therapy for physicians and technicians—September 7, 8, 9, and 10.

* * *

The Second National Assembly of the International College of Surgeons will be held in Philadelphia, Pennsylvania, with the headquarters at the Bellevue Stratford Hotel, on October 13 and 14, 1938.

All members of the medical profession of good standing are cordially invited to attend the scientific program and clinics. There will be no registration fee.

* * *

Written examinations for certification by the American Board of Internal Medicine will be held in various parts of the United States on Monday, October 17, 1938, and on Monday, February 20, 1939.

Formal application must be received by the Secretary before September 15, 1938 for the October 1938 examination, and on or before January 1 for the February 1939 examination.

Application forms may be obtained from William S. Middleton, M. D., Secretary-Treasurer, 1301 University Avenue, Madison, Wisconsin, U. S. A.

* * *

The 23rd annual meeting of the American Association of Railway Surgeons will be held at the Palmer House, Chicago, September 19th to 23rd, 1938.

This association includes members in practically every railroad company in the United States, as well as the separate group organizations, embracing railroad surgeons of the New York Central System; Southern Railway; Atlantic & West Point R. R.; Western Ry. of Alabama; Illinois Central System; Chicago, Milwaukee, St. Paul & Pacific R. R.; Rock Island Lines; Chicago, Burlington & Quincy R. R.; Chicago and Northwestern R. R.; the Georgia Railway and other road associations.

An extremely interesting and highly profitable program has been arranged and all

physicians and surgeons are invited to attend the sessions of this meeting as guests of the organization. There will be no registration fee to physician non-member guests.

In addition to the scientific exhibits, a technical show will be held, including the presentation of new equipment, advanced types of therapy, new pharmaceutical and biological products and the latest techniques in many branches of the profession.

A cordial invitation to attend is extended by Dr. Harvey Bartle, President of the Association. Complete program and information regarding the meeting and the exhibits may be secured by addressing Mr. A. G. Park, Convention Manager, the American Association of Railway Surgeons, Palmer House, Chicago, Illinois.

* * *

Fall meeting of the Northeastern Division of the Association, Dr. R. C. Stewart, Sylacauga, Vice-President, will be held at the Alabama Hotel, Anniston, on September 22, beginning at 1:00 P. M. Those scheduled to read papers are Dr. John W. Bogges, Jr., Guntersville, "Some Clinical Observations in Asthmatic Cases"; Dr. C. N. Carraway, Birmingham, "Intravenous Sodium Pentothal and Oxygen Anesthesia in Major Operations"; Dr. Seale Harris, Sr., Birmingham, "Gastro-Intestinal Symptoms and Dietary Management of Pellagra"; Dr. J. N. Baker, Montgomery, "Future Plans and Needs of the State Department of Health"; Dr. B. B. Warwick, Talladega, "Nasal Headaches"; and Dr. Jerre Watson, Anniston, "Some Errors in Diagnosis."

The Calhoun County Medical Society will be hosts to the Division.

* * *

The Speaker of the House of Delegates of the American Medical Association has called the House to convene in special session in Chicago at 10:00 A. M. on September 16th. The business to be transacted will be limited to a consideration of the national health program submitted to the National Health Conference recently held in Washington and to such other matters as may be introduced by the Board of Trustees.

* * *

The Southern Tuberculosis Conference and Southern Sanatorium Association will

meet at Brown Hotel, Louisville, Kentucky, September 19-21.

* * *

The tenth annual Inactive Status Training Course for Medical Department Reservists of the Army and Navy will be held at the Mayo Foundation, Rochester, Minnesota, October 3rd to 15th. All Medical Department Reservists are eligible for enrollment. Applications should be forwarded through the respective Reserve Headquarters of the officer concerned.

* * *

The 67th annual meeting of the American Public Health Association will convene in Kansas City, October 25-28.

Book Abstracts and Reviews

Handbook of Nutrition for the Public Health Worker. By Salome Winckler, Director of Dietetics, Vanderbilt University Hospital; Instructor in Nutrition, School of Nursing, Vanderbilt University. Edwards Brothers, Inc., Ann Arbor, Michigan, 1936. Price \$1.00.

Today, with so much emphasis being placed upon nutrition in relation to public health, there is a need for a good scientific manual on nutrition by which the public health worker may be guided. This book doubtless met this need in 1936 when it was written. However, since that time many advances have been made in the science of nutrition and for that reason this manual does not contain the most recent findings.

The book first deals with the nutritional requirements of an adequate diet. The energy content is discussed at length. Tables are given showing energy requirements at different ages, and caloric values of various foods. Then follows a discussion of proteins, including functions in the body, bodily requirements and tables showing the protein values of various foods. Minerals are discussed in a similar manner. Only one table is given on the vitamins. With the present-day knowledge of the vitamins and their importance to physical well-being, it would seem highly advisable to include in such a manual more information upon this subject.

Several pages are devoted to the family budget. Nutrition is discussed in its relation to pregnancy, infancy, undernutrition, deficiency diseases, tuberculosis and typhoid fever.

The general scope of the contents and the outline manner in which the material is presented seem very appropriate for this type of manual. However, there is a need for more timely material to be incorporated in its contents.

M. W. B.

Father's Doing Nicely (The Expectant Father's Handbook). By David Victor. The Bobbs-Merrill Company, Indianapolis and New York. 170 pages. Price \$1.50. Cloth.

During the past few years the book market has had an avalanche of books on the expectant

mother but at last one has been written for the neglected expectant father—"the forgotten man of propagation," as author David Victor calls him. Most books on expectant parenthood have been written on the old pattern of giving scientific facts in a serious manner but David Victor is very modern in that he has clothed the facts he wishes presented in the bright colored clothes of humor, sometimes very evident and often quite subtle.

A glance at some of the contents reveals the humorous trend of the writer. "The Forgotten Man of Propagation"; "Are You Heir Conditioned?"; "M. D.'s and Doses"; "Storks Have Big Bills"; "The Gentle Art of 'Infanticiding'"; "The Day Before Labor Day"; "Paternity Pains"; "Your Last Ten Days of Freedom"; and "For Crying Out Loud" are all titles which are whimsical to say the least. Throughout the book information is given in such a delightful way that much of it will remain in the memory.

The book is accurate enough to be given to the "expectant" father with confidence that he will be receiving the correct answers to the many questions he has in his mind but may not ask. Most physicians today, who have a large obstetric practice, have found it not only important but necessary to have the expectant mother make regular visits for examination and advice. But how many of the doctors have thought to see the "expectant" father and give him the advice he needs and in many cases wants? In a few of the cities classes are now being held for the expectant fathers but these classes can reach only a very few. In the meanwhile, "Father's Doing Nicely" should prove of great assistance to the busy physician who can "lend" his copy to the expectant father—with the mental reservation that it probably will not be returned and that he must either mark it off to paternal education or add the cost to his bill. Whichever he does, the physician will have enjoyed this book and the many new words coined by the author. We heartily recommend it because a second reading left us chuckling at its humor and impressed with its practical information even more than the first.

E. F. D.

Handbook on Social Hygiene. By W. Bayard Long, M. D., Attending Dermatologist and Director of Dermatology and Syphilis Clinics in St. Luke's Hospital, New York; Chairman, Social Hygiene Committee, New York Tuberculosis and Health Association; and Jacob A. Goldberg, M. A., Ph. D., F. A. P. H. A., Secretary, Social Hygiene Committee, New York Tuberculosis and Health Association, and Social Hygiene Council of Greater New York. Lea and Febiger, Philadelphia, Pa. 1938. Cloth. Price \$4.00.

The authors of the "Handbook on Social Hygiene" have accumulated some four hundred pages of valuable material pertaining to the venereal diseases. It is designed to serve as a manual for professional people who haven't the time to read extensively on the subject. The information contained is highly useful and is gleaned from many authentic sources. Each chapter is handled admirably and is a complete work within itself because many contributors with vast experiences have supplied articles for

the publication. Drs. Long and Goldberg have done a splendid work in editing and arranging the sequence of the subject matter.

From the opening chapter, "The Campaign Against Syphilis and Gonorrhea," to the closing of the final chapter, "Legal Aspects of the Venereal Diseases," one is impressed by the studious manner with which the different phases of the subject are presented. In the proposed campaign against syphilis and gonorrhea emphasis is placed upon the importance of giving correct information to those who need it most, provision for diagnosis and treatment, epidemiologic investigation, search for old cases and further research not only to discover new knowledge but also to apply such knowledge and study results on which may be based improved administrative practices.

In the next few chapters discussion is given of the history, etiology, diagnosis and treatment of syphilis, syphilis of the nervous system and the medical aspects of syphilis. Then follows a chapter on syphilis and gonorrhea of the eye and in another chapter is taken up prenatal and congenital syphilis.

Gonorrhea in the male and female, vaginitis and the laboratory aspects of the venereal diseases are dealt with in the order named. Hospital and outpatient clinics and health department programs for combating syphilis and gonorrhea are subjects that are given careful consideration.

Social service and epidemiology relating to venereal diseases, the responsibility of nursing schools in the control of syphilis and gonorrhea, the public health nurse and syphilis control, the problems of syphilis and gonorrhea in family welfare agencies and social hygiene education in relation to venereal disease control are other chapters contained in this valuable handbook. It is interesting to observe the importance placed upon the educational program that is emphasized all through the book.

The final chapter deals with the legal aspects of the venereal diseases and in it is given a digest of state laws, rules and regulations of local departments of health, and marriage laws.

This handbook can be highly recommended to all who have a basic knowledge of the venereal diseases and desire to have a handy reference book that contains information that is practical and of proven value.

B. F. A.

How To Live. By Irving Fisher, LL. D., Professor Emeritus of Economics, Yale University, and Haven Emerson, M. D., Professor of Public Health Practice, Columbia University. Twentieth Edition. New York: Funk and Wagnalls Company. 422 pages. \$2.50.

Two-score years ago Professor Irving Fisher returned to his classroom duties at Yale at the conclusion of a three years' leave of absence forced upon him by a breakdown with tuberculosis. Shortly afterward he was asked to deliver a series of extra-curriculum lectures to a group of Yale students. He did so, and this, one of the newest books to pour from the country's presses, is in large part a product of his acquiescence to that request.

During his prolonged battle against the tubercle bacillus, Professor Fisher devoted much thought to his own disease and to disease generally. The realization grew in his mind that his recovery depended largely upon individual hygiene and right living, and out of that realization grew another one: that health in general was largely the fruit of taking care of one's physical body. He therefore determined to devote himself during the rest of his life to the great work of making people healthier through the practice of proper health habits.

Professor Fisher had the assistance of Dr. Eugene Lyman Fisk in gathering and whipping into shape the material for earlier editions of this work, but that literary partnership was ended by the death of his collaborator. The choice of Dr. Haven Emerson, one of the really outstanding figures in American public health, as Dr. Fisk's successor was a happy one.

It is to be expected that a volume remindful in its thickness of "Gone With the Wind" or "Anthony Adverse" would cover its subject in a thorough-going sort of way, and that expectation is realized, as even a casual glance at the table of contents makes plain. The work is divided and subdivided into parts, chapters and appendices, and each touches in interesting, easy-to-read fashion upon some vital phase of personal and community health.

The four parts are titled "Our Exterior," "Our Interior," "Our Behavior," and "Hygiene in General," and each of these is divided into chapters devoted to discussions of various phases of the general theme. The mere listing of a few of the chapter headings indicates the scope of the work, covering, as they do, such a wide variety of topics as "The Skin and Tuberculosis," "The Skin as Eliminator," "Lighter Clothes," "Shoe Hygiene," "Motions of the Air," "Outdoor Sleeping," "Special Beds," "Advantages of Mastication," "How Much to Eat," "Water Drinking," "Alcohol," "Tobacco," "Diet and Teeth," "Elimination and Long Life," "Carriers of Germs," etc.

The appendices, comprising the latter part of the book, are brief essays on health subjects of popular interest by well known authorities. These offer the reader a wide variety, from "Meats in the Diet," by Dr. E. V. McCollum, to "The Cancer Problem," by Dr. Frederick L. Hoffman. There are 32 of these articles.

Some—a comparative few—read to gain information which they realize they ought to have. Others—the vast majority of readers—turn to books as an escape from the serious things of life, in much the same spirit that they go on a fishing trip or flock to see the latest product of the Hollywood movie mill. It would undoubtedly be an exaggeration to say that "How to Live" is as absorbing as MGM's most recent opus, but one spending an evening in the company of this distinguished group of writers will not find the evening dull by any means. He will certainly find himself rewarded with a greatly increased store of information on a vitally important subject.

J. M. G.

Truth About Medicines

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Benzedrine Sulfate.—Amphetamine sulfate.—Racemic desoxynorephedrine sulfate.—Racemic benzyl-methyl carbinamine sulfate. Benzedrine sulfate is useful in the treatment of narcolepsy, for controlling symptoms similar to those of narcolepsy in the treatment of postencephalitic parkinsonism, in the treatment of certain depressive psychopathic conditions and for facilitating roentgenographic studies of the gastrointestinal tract. Its use is not recommended in the treatment of sleepiness and fatigue in normal individuals because of the possible danger of pressor effects from continued use, because of the dangers of eliminating the warning signal of sleepiness in individuals who are overdoing, because of the possibility of habit formation and because cases of collapse have ensued. Its use is not recommended for developing a sense of increased energy or capacity for work. Its use in depressive psychopathic cases should be confined to patients in institutions. The very nature of the therapeutic effects, as well as the side actions of this drug, requires that its use be promoted with proper caution. It is supplied in the form of tablets, each containing benzedrine sulfate, 10 mg. (0.01 Gm.) Smith, Kline & French Laboratories, Philadelphia, Pa.

Nicotinic Acid.—3: Pyridine Carboxylic Acid.—Nicotinic acid is accepted for purposes of standardization and clinical experimentation on its use in pellagra.

Nicotinic Acid (3: Pyridine Carboxylic Acid).—SMA Co.—A brand of nicotinic acid—N. N. R. It is supplied in the form of 5 cc vials, each vial containing 30 mg. of nicotinic acid in sterile physiologic solution of sodium chloride; in 10 cc. vials, each vial containing 10 mg. of nicotinic acid in physiologic solution of sodium chloride; and in the form of tablets 20 mg. and 100 mg. S. M. A. Corporation, Cleveland, Ohio. (J. A. M. A., July 2, 1938, p. 27.)

Thiamin Chloride.—Crystalline vitamin B₁ hydrochloride. 3'-(methyl-4-aminohydrochloride-pyrimidyl-5- methyl)-N- 4'-methyl-5'- beta-hydroxyethyl-3- chlorothiazole. Thiamin chloride may be prepared from natural sources such as yeast or rice polishings and also synthetically. For actions and uses see general article vitamin B₁ (thiamin chloride), Allowable Claims, New and Non-official Remedies, 1938, page 471.

Vitamin B₁ Hydrochloride (Thiamin Chloride)—Merck.—A brand of thiamin chloride—N. N. R. Merck & Co., Inc., Rahway, N. J.

McKesson's Cod and Halibut Liver Oil.—A blend of cod and halibut liver oils (New and Nonofficial Remedies, 1938, p. 496), adjusted to have the potency per gram of 2,100 U. S. P. units vitamin A and 210 U. S. P. units of vitamin D. McKesson & Roberts, Inc., Bridgeport, Conn.

Ampules Solution of Nupercaine-Ciba, 1:1,500 in 0.5% solution of sodium chloride, 20 cc.—Each ampule contains nupercaine-Ciba (New and Nonofficial Remedies, 1938, p. 69), 1:1,500 in 0.5% solution of sodium chloride. Ciba Pharmaceutical Products, Inc., Summit, N. J.

Ampules Solution of Nupercaine-Ciba, 1:1,000, with epinephrine, 1:100,000, 2 cc.—Each ampule contains nupercaine-Ciba (New and Nonofficial Remedies, 1938, p. 69), 1:1,000, with epinephrine, 1:100,000. Ciba Pharmaceutical Products, Inc., Summit, N. J.

Ampules Solution of Nupercaine-Ciba, 1:1,000, with epinephrine, 1:100,000, 5 cc.—Each ampule contains nupercaine-Ciba (New and Nonofficial Remedies, 1938, p. 69), 1:1,000, with epinephrine 1:100,000. Ciba Pharmaceutical Products, Inc., Summit, N. J.

Ampoules Solution Metycaine 10%, 2 cc.—Each 2 cc. contains metycaine (New and Nonofficial Remedies, 1938, p. 67) 0.2 Gm. (3 grains) in distilled water. To be used in spinal anesthesia. Eli Lilly & Co., Indianapolis, Ind.

Ampoules Solution Metycaine 20%, 5 cc.—Each 5 cc. contains metycaine (New and Nonofficial Remedies, 1938, p. 67) 1 Gm. (15½ grains) in distilled water. To be

used for infiltration and regional anesthesia. The solution must be diluted before using. Eli Lilly & Co., Indianapolis, Ind.

Nicotinic Acid Amide.—3: Pyridine Carboxylic Acid Amide.—The amide of nicotinic acid.—The actions, uses and dosage of nicotinic acid amide are undetermined. The product is accepted for standardization and clinical experimentation only.

Nicotinic Acid Amide (3: Pyridine Carboxylic Acid Amide) S. M. A. Co.—A brand of nicotinic acid amide-N. N. R. S. M. A. Corporation, Cleveland, Ohio. (J. A. M. A., July 16, 1938, p. 253).

Ephedrine Alkaloid, Hemihydrate—Abbott.—A brand of ephedrine hemihydrate-N. N. R. (New and Nonofficial Remedies, 1938, p. 226). Abbott Laboratories, North Chicago, Illinois.

Wyeth's Suppositories Digitalis Leaf.—Each suppository contains 1 U. S. P. unit of digitalis (New and Nonofficial Remedies, 1938, p. 186) in an ointment base consisting of cocoa butter and beeswax. John Wyeth & Brother, Inc., Philadelphia.

Prostigmine.—Pharmacologic experiments indicate that the prostigmine component of prostigmine compounds possesses some of the properties of the closely allied drug physostigmine. Its actions and uses are similar, but it has the advantage of being more stable. Apparently, it is as active as physostigmine in stimulating intestinal peristalsis and has a similar but somewhat diminished myotic activity. There is no satisfactory evidence that the symptoms produced by toxic doses of prostigmine salts are any less severe than those produced by comparable doses of physostigmine or its salts. Atropine is the antidote to prostigmine. Prostigmine preparations have been used experimentally for the prevention of atony of the intestinal and bladder musculature, and for the symptomatic control of myasthenia gravis. Prostigmine is available only in the form of its salts.

Prostigmine Bromide.—The dimethylcarbamate ester of 3-hydroxyphenyl-trimethylammonium bromide. For a statement of the actions and uses see Prostigmine. Prostigmine bromide is used for the oral treatment of myasthenia gravis. The bromide is used for the oral tablet form as it is com-

paratively nonhygroscopic. It is supplied in the form of tablets, 0.015 Gm. Hoffmann-La Roche, Inc., Nutley, N. J.

Prostigmine Methylsulfate.—The dimethyl-carbamate ester of 3-hydroxyphenyl-trimethylammonium methyl-sulfate.—For a statement of the actions and uses see Prostigmine. Prostigmine methylsulfate is supplied in the form of ampuls 1:2,000, 1 cc., and 1:4,000, 1 cc. Hoffmann-La Roche, Inc., Nutley, N. J.

Ampoules Sodium Thiosulfate—Abbott, 0.5 Gm., 5 cc.—Each ampoule contains sodium thiosulfate (New and Nonofficial Remedies, 1938, p. 450), 0.5 Gm., 5. cc. Abbott Laboratories, North Chicago, Ill.

Ampoules Sodium Thiosulfate—Abbott, 1.0 Gm., 10 cc.—Each ampoule contains sodium thiosulfate (New and Nonofficial Remedies, 1938, p. 450), 1.0 Gm., 10 cc. Abbott Laboratories, North Chicago, Ill. (J. A. M. A., July 23, 1938, p. 323).

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following apparatus have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Pollenex Air Filter.—The Pollenex Air Filter is designed to remove pollen from the air for the relief of sufferers from hay fever or pollen asthma. It may be installed in a lift sash window which is 22 inches wide or wider. The motor and centrifugal type Sirocco fan are mounted in the narrow end of the unit on rubber parts to prevent vibration. The fan is almost noiseless in operation. Geo. W. Pollock Co., Milwaukee, Wis. (J. A. M. A., Aug. 6, 1938, p. 531.)

Burdick SWD-50 Short Wave Diathermy.—The Burdick SWD-50 portable short wave diathermy unit is designed for medical diathermy and for minor electrosurgery. Standard accessories are available for cutting and coagulating purposes. The unit was tested clinically by a reliable investigator and he reported that it produced satisfactory clinical results in a large and mixed group selected for study when the cuff technique is used. The Burdick Corporation, Milton, Wis. (J. A. M. A., Aug. 20, 1938, p. 711.)

Miscellany

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No difficulty of administration was encountered with either the infants or the older children. Clinical observation made fifteen minutes after use of the Inhaler showed marked shrinkage of the nasal mucosa resulting in decongestion of the nasal passages and relief from "stuffiness." All the cases of acute rhinopharyngitis and sinusitis were benefited. Those with otitis media

received relief from nasal symptoms although it did not alter the course of the disease. This was also true of two cases of asthma. No results were obtained with two cases of epistaxis.

In no case were any ill effects noted, such as headache, sleeplessness, restlessness or gastro-intestinal disturbance. It is thus concluded that "Benzedrine Inhaler" can be satisfactorily employed with young children for the relief of nasal symptoms due to infectious or allergic edema.

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The cardio-respiratory stimulant, Metrazol, is receiving considerable attention not only for emergencies during anesthesia, but for denarcotization procedures following surgical operations.

The plan which is frequently used is to inject 3 cc. of Metrazol intravenously and 3 cc. intramuscularly immediately after the close of the operation. A smaller dose, 1 or 2 cc., is given in one-half to one hour and repeated one hour later if indicated. Usually this does not awaken the patient, but is given with the idea of restoring the reflexes, then allowing the patient to sleep through the pain zone with the surgical anesthetic acting as a post-operative analgesic.

According to Hogan (Amer. Jour. Surg., 38: 340, Nov., 1937), "Metrazol is a milder, more uniform, more effective means of accomplishing complete aeration of the lung than the use by the individual of the carbon dioxide-oxygen mixture with the attendant dangers of over-stimulation and laceration of the smaller alveoli." Hogan has observed that often the excursion of the thorax is increased before the intravenous injection of Metrazol is completed.

Further information on Metrazol and its use in combating depression from barbitol derivatives, the opiates, asphyctic conditions, etc., will be sent upon request to the Bilhuber-Knoll Corp., 154 Ogden Ave., Jersey City, N. J.

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BENZEDRINE

At the suggestion of the Council on Pharmacy and Chemistry, Smith, Kline & French Laboratories agreed to adopt the term "alpha methylphenethylamine" as the descriptive chemical name for the substance introduced in therapeutics as Benzedrine. Subsequently, the firm suggested that a shorter generic name also be recognized, and suggested "alphametamine." The Committee on Nomenclature preferred "amphetamine" to avoid possible misinterpretations of the firm's term. The firm wrote that this name was entirely acceptable to it. The Council therefore adopted the name "Amphetamine" as the nonproprietary synonym for Benzedrine, and "Amphetamine Sulfate" as the synonym for Benzedrine Sulfate.



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AN OPTIMISTIC VIEW OF THE PROBLEMS OF HEART DISEASE*

By
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Philadelphia

Heart disease stands today unchallenged as the chief cause of death. Furthermore, in the opinion of most observers, it is increasing. The fact that heart disease is increasing in spite of our best efforts makes it difficult for some persons to view this situation other than pessimistically. Yet, there are many things that warrant one in viewing the problem optimistically; some of these I should like to discuss with you.

During the year 1935, some 312,333 persons are said to have died of heart disease in the United States. While this is a staggering figure, yet the picture as a whole has certain distinctly favorable aspects. Cohn and Lingg¹ have recently analyzed the vital statistics of ten states for the years 1900 through 1930, and drawn from them some interesting conclusions. They found that, although more persons are now dying of heart disease, the great majority still die in their fifties as has always been the case; the life expectancy of cardiac victims has not been shortened. Indeed, considerably fewer persons are dying under the age of fifty than was the case even a decade ago; for one's life expectancy has been increased by 10.73 years in the short period between 1917 and 1930. This has been accomplished almost entirely through the conquest of infectious diseases. What it seems to amount to is this: we are being saved from dying of some infectious disease to die of heart disease; more of us now die of heart disease because medical progress has made it possible for an increasing number of persons to

reach the age at which heart disease always has and still does claim its victims. Viewed in this light, the picture is not so unfavorable; for I dare say that most of us, were we given any choice in the matter, would prefer to die of coronary occlusion at fifty-five rather than of diphtheria, let us say, at five.

But no matter how we juggle figures about and interpret them, the problem of heart disease is a very serious one. It is conservative to say that in our country there are millions of persons who are crippled and handicapped by heart disease, and that the average life of these millions will be considerably short of the theoretical three score years and ten. This is our problem. What can we do about it? What we may reasonably hope for and work for is expressed in the avowed aim of the American Heart Association, *the prevention and relief of heart disease*. Cure heart disease once it has become established? No! But we can expect to relieve it and to learn methods whereby we can push back the average time at which it claims its victims from fifty-years to somewhere nearer the allotted seventy. Many feel that our best hope of conquering this problem lies in *prevention*.

One reason why we may feel optimistic toward the problem of heart disease is that it is receiving more careful and intensive study than it ever has before. Furthermore, the study that is being given to heart disease is yielding fruit. I shall not discuss the many advances that have been made; they are well known to you. I only wish to emphasize one which I think in the long run may prove to be one of the most important; that is, the clarification of our ideas regarding the causes of heart disease.

Until relatively recently, our conception of the causes of heart disease was very loose and inaccurate. We have made a great advance, in my opinion, in learning that only

*Jerome Cochran Lecture, delivered before the association in annual session, Mobile, April 20, 1938.

1. Cohn, A. E.; and Lingg, C.: Heart Disease from Point of View of Public Health—1933, *Am. Heart J.* 9:283 (Feb.) 1934.

four well-known conditions are responsible for 90% of all heart disease. These four great etiologic factors are: (1) arteriosclerosis of the coronary arteries, (2) hypertension, (3) rheumatic fever, and (4) syphilis. These are responsible for 90%, and other causes for only 10% of all heart disease. Furthermore, these four etiologic causes produce the four great types of heart disease; each different in its manifestations, its course, and its prognosis. I repeat that in my opinion the emphasis on etiology and our better conception of these four great types of heart disease constitute one of the most important recent advances in our knowledge of cardiology.

I should like to discuss briefly these four types of heart disease.

SYPHILITIC HEART DISEASE

We shall pass over this subject very quickly. I do not consider syphilitic heart disease as being any longer one of the great problems of cardiology; for (1) it is a disease whose clinical manifestations we understand well and can recognize without difficulty; (2) we know its cause; and (3) our therapy is effective if we can apply it early. In other words, we have the knowledge already at hand with which syphilitic heart disease can be eradicated just so soon as apathy and reticence are laid aside and the public decides to take up the battle. Syphilis can be cured in its early stages. It can be prevented; and this does not necessarily require that we change the age-old urges or the morals of humanity.

RHEUMATIC HEART DISEASE

This is indeed a great problem. It is not as much of a problem with you as it is with us in the northeastern states where one to two out of every one hundred children of school age have rheumatic hearts. In the beginning, we must clearly understand that there are really two problems: (1) the disease, *rheumatic fever*, and (2) the results of this disease, *rheumatic heart disease*. In the early stages, we are generally confronted by both conditions. Later, after the active rheumatic fever has subsided, we only have the second to deal with.

Rheumatic Fever. We can consider today only a few of the many important facts concerning this condition.

(1) It is a disease primarily of youth and childhood: any case of heart disease in a

person under thirty-five years of age is apt to be of rheumatic etiology.

(2) The term "acute" rheumatic fever is a misnomer, for the disease lasts not weeks but years.

(3) It is subject to remissions, with alternate periods of activity and inactivity. As times goes on, there is ultimately developed an immunity of some sort to the disease so that activity usually is permanently over by the time of puberty, or a few years thereafter; and from then on, we have to deal only with the results: old rheumatic hearts. It is often difficult to recognize low-grade activity. A number of signs and tests have been suggested to determine whether activity is present or not. Two that are very valuable are pallor and heart failure. A characteristic color is always present with activity. It is as definite and characteristic as the pallor of bacterial endocarditis, and is of equal or greater value than the sedimentation rate as evidence of activity. The young heart can stand a great deal without failing; when failure is present in a young person, it nearly always indicates that the heart is the seat of active and rheumatic lesions.

(4) Joints are affected in only 50% of the cases. When there is no arthritis or when the predominating symptoms and signs are in the lungs, peritoneum, etc., the diagnosis may be very difficult; for although the heart is practically always involved, it may require a considerable time before this involvement can be certainly recognized. Where the diagnosis is uncertain, the electrocardiograph may be extremely helpful. It may reveal findings that are pathognomonic of active rheumatic fever.

Have we any justifiable reason to look optimistically upon the problem of rheumatic fever? I think that we have!

(1) We now know that rheumatic fever is intimately associated with streptococci. This is not an entirely direct association; apparently, the various phenomena that constitute the clinical picture are really allergic in nature and depend upon hypersensitization of tissues to the endotoxins of streptococci. I do not know that anyone can say that this theory is definitely established. But there certainly is much to recommend it, and it gives us a good working hypothesis.

(2) Since rheumatic fever is a streptococcic disease, and since activation is nearly always preceded by streptococcic infections, we have learned the importance of protection against these infections. It would also seem logical to remove foci of infection that harbor streptococci. This has led to the widespread removal of tonsils. This procedure has not accomplished all that we hoped it would; it certainly does not prevent recurrence in some individuals. It may have done good; certainly it should be resorted to in those who have had rheumatic fever.

(3) We have a form of treatment that apparently accomplishes much; prolonged rest in bed. Rest for months! If you are inclined to be discouraged over the fact that rest in bed still constitutes our most effective means of limiting cardiac damage, just remember that we have never had any specific treatment for tuberculosis—no serums and no drugs! Yet, with nothing more spectacular than prolonged bed rest, tuberculosis has been controlled.

I believe that our efforts are accomplishing something. We cannot prevent rheumatic fever, but it does seem to me that we see less of the severe cardiac damage and more of what may be called "minimal involvement" than we used to see. Possibly the day is not far distant when we will have some specific method of combating and effectively preventing rheumatic fever.

Rheumatic Heart Disease. When rheumatic fever finally ceases to be active, we then have to do with its results, the permanent damage left in the heart. The old rheumatic heart presents many facts of interest, only a few of which can be emphasized today.

(1) The mitral valve is involved in practically every rheumatic heart, the degree of involvement ranging from very mild to extreme. The aortic valve is involved in fifty per cent of cases. Rheumatic fever permanently damages the myocardium and the pericardium frequently.

(2) It has been recently emphasized that rheumatic fever permanently damages the lungs as well as the heart. The resulting loss of elasticity and pulmonary fibrosis may be a factor in determining the strain put upon the rheumatic heart.²

2. Gouley, B.: Role of Lung Changes in Development of Chronic Rheumatic Heart Disease, *Am. J. M. Sc.* (In press.)

(3) Prognosis is to be made not on the intensity and character of the murmurs but upon such factors as the number of valves involved, the presence of adhesive pericarditis, the degree of cardiac enlargement, the presence of complications, and, particularly, the degree of strain under which the right ventricle is placed. The tax that a heart with uncomplicated mitral stenosis is subjected to is measured by the degree of strain on the right ventricle. Barring unpredictable complications, one is justified in believing that a given case of mitral stenosis will run a benign course if the right ventricle is not under great strain and that its course will be much more precarious if the evidences of right ventricular strain are marked. While the x-ray or the fluoroscope gives the best evidence of right ventricular strain, the intensity of the second pulmonic sound is a fairly good guide. A markedly accentuated P_2 is a bad sign in mitral stenosis; a normal or only slightly accentuated sound is a good prognostic sign.

(4) The most important complications of old rheumatic hearts are:

- a. Bacterial endocarditis (50%);
- b. Auricular fibrillation (25%) and other arrhythmias; and
- c. Embolism.

These complications are unpredictable and therefore make an altogether favorable prognosis somewhat hazardous in any rheumatic heart. Auricular fibrillation, the commonest complication, definitely hastens the eventuation of fatal heart failure, particularly when this arrhythmia develops before the age of twenty-five.³

Obviously, our most effective stroke against rheumatic heart disease will be the prevention of rheumatic fever. Until that time, we must first treat rheumatic fever as carefully as we can, and, secondly, guide our patients whose hearts are damaged by rheumatic fever into the proper paths. I use the word "guide" advisedly, for that is exactly what we should do. This guidance should include not only treating these patients when their hearts become overtaxed but should also include their preparation for an occupation suited to their hearts.

The rheumatic heart requires a great deal

3. Stroud, W. D.; et al.: Etiology, Prognosis and Treatment of Auricular Fibrillation, *Am. J. M. Sc.* 183:48 (Jan.) 1932.

of nursing and watching, but it responds to rest more quickly and more satisfactorily than any other type of heart disease. With great care and reasonable luck, many persons with mild or moderately bad rheumatic hearts will live out their normal life expectancy.

HYPERTENSIVE AND ARTERIOSCLEROTIC HEART DISEASE

We now come to our greatest problem, since we know so little of the real causes of hypertension and arteriosclerosis. Yet, in spite of this handicap, there is much that can be accomplished.

Hypertensive Heart Disease. Hypertension is probably the commonest cause of heart disease, for in every instance of established hypertension the heart is hypertrophied to some degree, and a heart that is even slightly hypertrophied is already an abnormal organ.

The course of hypertensive heart disease is usually progressively downward. Whether this downward course is slow or rapid will depend upon the degree of hypertension to some extent but chiefly upon the willingness or the ability of the patient to spare his heart. The hypertensive heart fails rapidly in those who, to live, must do hard manual labor. The downward course may be so gradual as to be almost imperceptible in those who have nothing to do but take care of themselves, and do this well.

The burden of hypertension falls upon the left ventricle, and, just as we are to watch the right ventricle if we are to tell how a case of mitral stenosis is progressing, so we are to watch the left ventricle if we are to judge how a given heart is standing hypertension. This can be judged by determining the degree of left ventricular enlargement and by looking for and studying the evidence of left ventricular strain and failure. Such phenomena as gallop rhythm and pulsus alternans are clear signs of severe left ventricular strain. They do not appear, however, until the left ventricle has about reached its limit. But very early, or even temporary, left ventricular failure produces definite signs. These are congestion of the lungs with resulting cyanosis and breathlessness. The pulmonary congestion of left ventricular failure is, in its early stages, cryptic and can be detected only by fluoroscopic or x-ray examination. These meth-

ods are, therefore, very useful and are to be employed where possible in following a case of hypertensive disease.

I wish to say just a word about the breathlessness of left ventricular failure. In its simplest manifestation, it consists of breathlessness on exertion only. In a more advanced form, it shows itself as paroxysmal dyspnea, which usually comes at night. Frequently, this so-called "cardiac asthma" can be distinguished from ordinary bronchial asthma only with difficulty. I should like to point out two facts that may aid in this differentiation: (1) the familial nature of bronchial asthma; and (2) an alteration of the circulation time. Bronchial asthma is frequently familial, and a family history of allergic manifestations will frequently lead to its recognition. Cardiac asthma, of course, is not definitely familial. In bronchial asthma, provided it is not complicated by coexistent heart disease, the circulation time is not increased. In left ventricular failure of sufficient degree to produce cardiac asthma, the circulation time is prolonged. There are a number of simple methods of determining the circulation time, a test we are finding of increasing usefulness.

We also encounter signs of right ventricular failure in hypertension. These consist of congestion in the venous system—elevated venous pressure, edema, hepatic enlargement, etc. A very important recent gain in our knowledge has been the realization that the chief cause of right ventricular failure is preceding left ventricular failure. Therefore, when right ventricular failure supervenes in hypertension, the left ventricle will have already failed, and we are dealing with a nearly defeated heart.

Arteriosclerotic Heart Disease. At the outset, it should be understood that arteriosclerosis as a cause of heart disease applies to change only in the coronary arteries; for arteriosclerotic change in other arteries has no very definite relation to the heart unless this change produces hypertension. This form of heart disease shows itself in three forms. In one, pain is absent, or, at least, not conspicuous. This type of non-valvular heart disease, sometimes with but often without hypertension, used to be erroneously called "chronic myocarditis." In its development, it is apt to be insidious, it frequently masquerades as indigestion, etc., and, not infrequently, it is overlooked in its

early stages. It is often accompanied by such disturbances as heart block, auricular fibrillation, etc. It is generally progressive, but often its progress is surprisingly slow. If anything effective is to be accomplished, it must be discovered early in its course. The two other forms of arteriosclerotic heart disease are both dominated by pain: angina pectoris and acute coronary occlusion.

Coronary occlusion has been so widely discussed recently that nothing more need be said of it here. Except this: there is no form of cardiac derangement in which the electrocardiograph plays so important a role as in this condition. This method positively makes the diagnosis in more than ninety-five per cent of instances. Furthermore, it gives most valuable information that can be obtained in no other way regarding the site of the occlusion. The electrocardiograph, therefore, should be used wherever possible in every case where coronary occlusion is a possibility.

We have time to refer only to a few facts in connection with angina pectoris:

(1) There is no such thing as pseudo-angina. As a diagnosis, this is as illogical as would be a diagnosis of pseudo-pneumonia. Precordial pain either is or is not angina pectoris. In many instances, it is not.

(2) Angina is almost always precipitated by exertion, by emotional upsets, or by eating. When precordial pain is not produced by one or the other of these factors, a positive diagnosis of angina pectoris should be cautiously made.

(3) The pain of angina pectoris may be of any degree from "mild" to "agonizing."

(4) Angina is usually accompanied by hypertension; it sometimes occurs with a normal or low pressure.

(5) Angina pectoris is compatible with many years of useful and happy life.

The Treatment of Hypertension and Arteriosclerotic Heart Disease: Have we any just grounds to look with optimism at the problem presented by these very serious types of heart disease? If we are to consider advanced cases, in the interest of truth, our answer must be in the negative; for I am frank to admit that, after left ventricular failure has shown itself in hypertension or after advanced forms of arteriosclerotic heart diseases have developed,

there is not a great deal that we can do. But if we frame our question in this fashion, "Can we prevent these forms of heart disease, or if we get them in their early stages, can we effectively stay their progress?" then I feel that there is much that we can do, and that we can justifiably view the matter hopefully.

Without entering into a discussion of the relationship between hypertension and arteriosclerosis and without meaning to imply that the causes of these two conditions are necessarily always the same, let us consider a few of the factors that have at one time or another been regarded as causative of one or the other or both conditions. These include: (1) hereditary influences, (2) racial factors, (3) improper function of certain glands of internal secretion, (4) abnormalities of the kidneys, (5) foci of infection, (6) improper diet, (7) obesity, (8) improper elimination, (9) excess of nicotine, coffee, tea, etc., (10) excessive physical effort, and (11) emotional upsets—long hours of nervous tension and mental concentration: the stress and strain of modern life. Such a list could be greatly prolonged, but this will do.

Frankly, many of these have little appeal to many of us as causes of degenerative heart disease. I very much doubt, for instance, if coffee and tea play any role; I am not so sure that nicotine may not. Likewise, in the case of foci of infection, improper elimination, excessive physical effort, and improper diet, there is little to establish a very strong causative relationship. Other factors, such as the kidneys and the glands of internal secretion, we understand imperfectly.

There is one factor listed that is particularly challenging, and that is the hereditary influence in these conditions. No one can doubt that there is such a factor; for the familial incidence of degenerative heart disease is before us constantly. Let us accept it, and make some use of it by beginning to treat those with a poor cardiovascular heredity before they develop hypertension or arteriosclerotic changes. A great many thoughtful physicians feel that prevention is the best method available to us today for attacking this very real problem. We may not succeed, but let us try. It can do no harm.

Aside from prevention, what methods of

treatment are available to us to stay the progress of these degenerative processes while they are still in their early stages? Well, let us take a list of the factors that may be causative; add to the list we have been discussing any other factor that you feel may be harmful and then let us systematically try to correct, as far as possible, the faults we find, even if we have no great conviction that some steps are particularly logical. Let us try to stop excesses of all sorts and strive for moderation. Among other things, let us stop overeating, and insist on at least twenty minutes rest after meals. There are sometimes glaring faults in exercise habits: let us get out of the minds of our patients over fifty the fetish of keeping in physical trim if it involves anything more than mild exercise. In early angina pectoris, sometimes amazing results are accomplished by very simple procedures. I had one patient who was in the habit of defecating immediately after breakfast, a procedure that regularly induced a mild anginal seizure. Resting after breakfast for ten minutes before going to stool completely eliminated the attacks of substernal pain.

When we have corrected the obvious faults, then we come to what often seems an insurmountable difficulty, namely, the elimination, or the alleviation at least, of the factors that in each individual case are furnishing the mental and emotional strains. It would be hard to define what we mean by the stress and strain of modern life, but I think a definition should include such things as "progress; competition; the desire to succeed, to excel, to create; the desire for luxuries; the momentum of hurry and the impatience with placidity; the commendation of 'push' and the disapprobation of compromise with psychic peace."⁴ To these I would like to add "frustration."

The treatment of hypertension and the prevention of coronary arteriosclerotic disease is CALM—according to Mosenthal. To accomplish calm and to eliminate the factors that mitigate against it is difficult. It seems the white man does not know well how to secure it. The Chinese do. Hypertension and angina pectoris have been practically unknown among them. "Ah yes, the Chinese lack the spasmogenic aptitude—placid,

gentle, peaceloving; Buddhist—their ideal, the severe calm of Amida Buddha, with closed lids and folded hands; symbol—the lotus flower scarcely swaying over the still pool".⁵ The Negro, who "takes each day as it is, takes little or no thought of the morrow, plays and lives in a state of play, hurries none and worries little,"⁶ also does.

It would appear to be a formidable task to eliminate these intangible psychic factors that oppose calm. Yet, if we are to make progress against these degenerative diseases, they must be prevented or eliminated. To get at them, we must go into the mental, emotional, and nervous life of our patients. In short, we must be psychologists as well as physicians; but this we all wish to be; for to treat the physical only and not the psychic is, as Houston says, "to practice medicine on the veterinary level."⁷

I think, if we apply ourselves to it, we may accomplish much. One thing we may do is to see to it that our patients have adequate hobbies and recreation and that they take sufficient vacations. These are the best antidotes that we know of against the killing pace of modern urban life. The day has passed when we can admire and emulate the attitude of the typical business man who boasts of "not having taken a vacation in twenty years." His is a philosophy that is unsound and dangerous for the times we live in. I would like to refer briefly to one case which illustrates what we can sometimes accomplish. A bank president of fifty-five, who was also on the boards of eight additional corporations, had been frequently seen by his physician during the previous four years and always found to have a blood pressure of 170-200/115-130; he was assumed to have an established hypertension for which nothing effective could be done. During a particularly gruelling period in 1933, when banks were crashing on every side, he had two attacks of angina pectoris in one afternoon: the first, mild; the second, extremely severe and thoroughly alarming (to the patient). On being asked by his physician to see him, my advice was that he resign from everything

5. Houston, W. R.: Spasmogenic Aptitude, *M. Clin. North America* 12:1285 (March) 1929.

6. Roberts, S. R.: Nervous and Mental Influences in Angina Pectoris, *Am. Heart J.* 7:21 (Oct.) 1931.

7. Houston, quoted by Roberts (Footnote 6).

4. Levin, L.: *Living Along with Heart Disease*, N. Y., The Macmillan Co., 1935.

except the presidency of his bank, that he leave that in the hands of its very capable corps of vice-presidents and take a three months' trip to Europe, and that he take up painting as a serious hobby. To my great surprise, he accepted my advice, and from that day to this he has had no more anginal seizures, and his blood pressure has never been found higher than 130/85. He feels that his new found hobby saved his life. I am not the one to dispute this.

We cannot discuss further the methods by which we may remove or lessen the impact of the stresses and strains of the present times. Sometimes we can do nothing; but very many times we can do a great deal if we apply ourselves to the problem intelligently.

We have said little today concerning the use of drugs in heart disease. I do not mean to minimize medical treatment. It has its very important place. But, on the whole, the non-medical treatment is the more important; for when all is said and done, the main principle in the treatment of heart disease consists in the adjustment of an handicapped organ to its environment: this cannot be accomplished very often with drugs.

The Education of the Patient: We, as physicians, can do a great deal in discovering when the heart is actually or potentially limited, and in determining what its capacity is. But, beyond this, all that we can do is to advise broadly. The execution of our advice is up to the patient. His damaged heart is his problem as much as it is ours.

Early in my contact with patients, I try to make them feel their own responsibility; that I can advise them only in principle and that the details are up to them. The advice to do nothing that strains their hearts is futile unless they know and understand the symptoms and signs that indicate that their hearts are being overtaxed. It is time well spent if we take great pains to explain to our intelligent patients some of the fundamental principles of the circulation and the meaning of certain symptoms. I feel the rational treatment of any but terminal heart disease requires that our patients not only realize they have heart disease but see that every direction we give them has a logical reason.

I am quite apt to tell most of my patients something approximating the truth about

their hearts; for I believe most people are of sufficiently strong character and moral fiber to stand the knowledge that their hearts are not perfect. It may come as something of a shock at first, but in the long run I believe that it pays. We doctors, you know, are great victims of degenerative heart disease. I do not see that it harms us to know that our hearts are not normal; indeed, it leads us to take more intelligent precautions. The reason this knowledge does us no harm is not because we are of stronger moral fiber or particularly resolute in the face of death. It is simply because we understand. I feel that the knowledge of heart disease will not harm the average layman either if he too understands. When a patient says to me, "Doctor, is it angina?" or "Am I apt to die suddenly?" I am quite apt to say, as someone wisely said, "Well, now, your chances of avoiding the agony of a lingering death are perhaps a little better than average, but I can't assure you that you will."

Obviously, we cannot be too frank with everyone, particularly with those who are bridled with self-interest and fear; such as a patient of mine, whom I greatly upset and probably harmed by inadvertently referring to her "murmurs" when she thought that she had only one murmur. It would never do to tell such persons that they have angina pectoris. Tell them if you like, as Stroud suggests, that they have "temporary anoxemia of the heart muscle"; or if they have coronary occlusion, tell them that they have "a more permanent form of myocardial anoxemia."⁸ But even these very nervous and apprehensive patients can be harmlessly told enough of their condition to be given an intelligent view of their problem if we go at the matter tactfully and slowly.

We must hold out hope to every patient with heart disease who comes to us. Unless we do this, all other measures are futile. We can accomplish this with much greater conviction if we can base the hope we give our patients on truth. This cannot always be done, but certainly if only our patients will come to us when their heart disease is in its early stage, it can be done; for hope is then justified.

8. Stroud, W. D.: Coronary Disease, Including Angina Pectoris, read at the Annual Meeting of the New Hampshire Medical Society at Manchester, May 27, 1936.

The Education of the Public: Tuberculosis could never have been controlled except for the fact that the layman has been educated to the point that he knows much concerning the symptoms and treatment, and a great deal concerning prevention.

At the present time even the intelligent layman knows much more about the engine of his automobile than he does about that marvellous motor of his own body. This must not be. A problem as great as that of heart disease will never be solved by the medical profession alone. Its solution will require the intelligent cooperation of the layman as well as the physician. If we are to make effective progress, education of the public must go hand in hand with scientific investigation. Such an organization as the American Heart Association, which is doing splendid work along this line, deserves the whole-hearted support of all of us who are interested in this subject. When the general public comes to know as much of heart disease, relatively, as it does of tuberculosis, we may hope to make rapid progress toward our goal, the prevention and relief of heart disease.

PRESENT STATUS OF THE TREATMENT OF THE PNEUMONIAS*

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The pneumonias constitute a subject of such major importance that they have commanded, to a large degree, the interest of many of our best medical minds during the past decade. Many vexing problems have been solved and others seem well on their way to an early solution. In treatment, especially, much remains to be accomplished. Our mortality is tragically high and we are faced with the fact that we have not made the favorable progress here that has rewarded our efforts in the management of most other pathologic conditions.¹ If we regard pneumonia as "a whole group of diseases,

each differing essentially from the other,"² it may account in part for the differences in experience and opinion found in medical literature.

So much is being offered, both for specific therapy and for symptomatic relief, that it is rather bewildering to the seeker after knowledge. At least one result of this may be that many physicians are doing too much for their patients. As Gerstley³ has so aptly remarked, "Far more patients are lost by too much rather than by too little treatment."

I shall endeavor here to give a brief digest of the best medical opinion, and some personal impressions regarding various therapeutic measures that appear to be of special interest.

Sulfanilamide is being studied so intensively that we are beginning to understand its value and its limitations. In streptococcal pneumonia its efficiency has apparently been established. In pneumococcal pneumonia there is a greater element of uncertainty. It is being recommended especially for type III and some interesting statistics are accumulating.^{4, 5, 6, 7} Reports as to its efficiency in type VII are somewhat encouraging. I feel, however, that this drug is not without danger in respiratory diseases. This opinion is based especially on its tendency to interfere with the oxygen-carrying power of the blood through the production of sulphhemoglobinemia and methemoglobinemia. Not only has this been demonstrated in the laboratory but evident cyanosis is not unusual in clinical practice.

Specific Serum: The literature on this phase of treatment is rapidly approaching immense proportions. The type I serum is

2. Cole, R.: Outlook for Overcoming Pneumonia, *Canad. M. A. J.* 30:237 (March) 1934.

3. Gerstley, J. R.: Treatment of Pneumonia in Children, *M. Clin. North America* 21:191 (Jan.) 1937.

4. Schwentker, F. F.: Use of Sulfanilamide in Treatment of Infections, *M. Clin. North America* 21:1449 (Sept.) 1937.

5. Bullowa, J. G. M.: Pneumonias: Their Management, *California & West Med.* 46:368 (June) 1937.

6. Gross, P.; and Cooper, F. B.: Efficacy of P-Aminobenzenesulfonamide in Experimental Type III *Pneumococcus Pneumonia* of Rats, *Proc. Soc. Exper. Biol. & Med.* 36:225 (March) 1937.

7. Cooper, F. B.; and Gross, P.: Para-Aminobenzenesulfonamide Therapy in Experimental Type III *Pneumococcal Pneumonia*, *Proc. Soc. Exper. Biol. & Med.* 36:678 (June) 1937.

*Read before the association in annual session, Mobile, April 20, 1938.

1. Bethea, O. W.: (a) Treatment of Pneumonia, *J. A. M. A.* 95:925 (Sept. 27) 1930. (b) Some Modern Trends in Therapy of Pneumonia, *Intern. M. Digest.* 28:178 (March) 1936.

now official in the U. S. Pharmacopeia. Types I and II are included in New and Nonofficial Remedies. Cole,⁸ to whom large credit is due for the development of this therapy, has conclusively proven the value of type I serum when properly used. In a recent article he⁹ states: "I think all the statistics indicate that, if serum is effective in type II pneumonia, it is much less effective than in type I." He⁹ speaks encouragingly of the developments in the specific sera for types V, VI, VII and VIII. Cecil¹⁰ seems to be centering his attention on type I serum which he considers specific and type II which he regards as having less value. Most encouraging reports are being published with regard to types V and VII.^{11, 12, 13} Some are adding to these, type VIII, and at the present time some^{14, 15} are employing the specific sera of types I, II, V, VI, VII, VIII, IX, XII, XIV, XVIII and XIX. There are important considerations that must be kept in mind if satisfactory results are to be obtained.

1. The serum must be type specific, that is type I serum for type I pneumonia, type II serum for type II pneumonia, etc. It is almost universally conceded that to use a serum without first determining the type of the pneumonia and then employing the specific product for that particular pneumonia is inexcusable.¹⁶ Polyvalent serums are not being used in polite society.

8. Cole, R.: Treatment of Pneumonia, *Ann. Int. Med.* 10:1 (July) 1936.

9. Cole, R.: Serum Therapy of Pneumococcic Pneumonia, *J. A. M. A.* 109:2059 (Dec. 18) 1937.

10. Cecil, R. L.: Remarks on Serum Treatment of Pneumonia, *Brit. M. J.* 2:657 (Oct. 8) 1932.

11. Bullowa, J. G. M.; and Wilcox, C.: Therapeutic Serum for Pneumococcus Type V (Cooper) Pneumonia, *J. Clin. Investigation* 15:711 (Nov.) 1936.

12. Finland, M.; et al.: Clinical and Immunological Observations in Cases of Pneumococcus Type VII Pneumonia Treated with Concentrated Type-Specific Antibody, *Am. J. M. Sc.* 193:59 (Jan.) 1937.

13. Finland, M.; et al.: Infection with Pneumococcus Type VII, *Am. J. M. Sc.* 193:48 (Jan.) 1937.

14. Bullowa, J. G. M.: Oxygen Therapy of Pneumonia, *J. A. M. A.* 109:2058 (Dec. 18) 1937.

15. Benjamin, J. E.; et al.: Study of Diagnosis and Treatment of Lobar Pneumonia According to Types and Specific Serum Therapy, *Ann. Int. Med.* 11:437 (Sept.) 1937.

16. British Medical Research Council: Serum Treatment of Lobar Pneumonia, *Lancet* 1:290 (Feb. 10) 1934.

2. The serum must be used early to secure the best results. Cole⁹ has not lost one of his last fifty patients with type I pneumonia who received the serum in the first twenty-four hours. By taking advantage of the Neufeld reaction, a report is now available within almost a matter of minutes. Some¹⁷ advocate giving serum at any time that a diagnosis is made, but it is rather generally conceded that it is of limited efficiency after the first few days.¹⁸

3. Serum must be given in sufficient dosage. Cecil¹⁰ recommends as the first day's treatment 100,000 units for type I pneumonia, 200,000 units for type II, subsequent doses to depend upon the progress of the case. His¹⁹ average for type I pneumonia treated in the first twenty-four hours of the disease was 181,000 units. Large doses are universally employed. Anglin and Brown²⁰ use a minimum dosage in type I of 120,000 units and in type II of 200,000 units. This is followed with doses of 60,000 to 80,000 units, often reaching a total of 400,000 to 600,000 units. They report one case that received 860,000 units. Finland et al¹² in their series employed total amounts of 60,000 to 480,000 units.

4. The dosage is not only influenced by the type of the organism but by the duration and extent^{17, 18} of the process before specific treatment is commenced and by the presence or absence of bacteriemia. There is a tendency to double or treble the dosage when there is bacteriemia or when treatment is initiated late.¹⁸

5. The concentrated sera are used exclusively and are administered intravenously.

6. It is felt that enough consideration has not been given to the selection of cases for this type of treatment.²¹ The British Medical Research Council¹⁶ advocated serum treatment only in the age group of from 20

17. Dowling, H. F.: Important Points in Treatment of Pneumonia with Specific Serum, *Virginia M. Monthly* 63:739 (March) 1937.

18. Finland, M.: Adequate Dosage in Specific Serum Treatment of Pneumococcus Type I Pneumonia, *Am. J. M. Sc.* 192:849 (Dec.) 1936.

19. Cecil, R. L.: Effects of Very Early Serum Treatment in Pneumococcus Type I Pneumonia, *J. A. M. A.* 108:689 (Feb. 27) 1937.

20. Anglin, G. C.; and Brown, M. H.: Anti-Pneumococcus Serum in Pneumonia, *Canad. M. A. J.* 36:370 (April) 1937.

21. Finland, M.: Use of Serum in Treatment of Pneumonia, *M. Clin. North America* 18:1093 (Jan.) 1935.

to 40 years. Finland recommends its use for patients between the ages of 12 and 60.²¹

One important factor that is recognized by Cole,² Cecil² and others is the cost. At present market prices the average cost of the serum in the treatment of the cases covered in this review would be about \$300.00. In one case mentioned it would have cost \$645.00. Free laboratory facilities and serum for those of limited means are urgently recommended.²² Specific serum obtained from the rabbit instead of the horse is gaining favor rapidly.²³ Convalescent serum has its advocates.³

Vaccines are employed both in prophylaxis and in treatment. Lintz²⁴ feels that their use is not justified. Cole² considers that their value is still unproven. Cecil² thinks that they have a field of usefulness, especially in prophylaxis. The leading advocate of vaccine in the treatment of pneumonia is Lambert.²⁵ He has made a careful study of a large series of cases and reports a remarkable reduction in mortality. Other biologics have largely fallen into disuse. Among these is Huntoon's antibody serum.

Oxygen is being used with increasing frequency as better facilities for its employment are developed. The old open cone that was held over the patient's face by an attendant has been discontinued. The nasal catheter has many advocates and several prominent writers have recently come forward with their endorsement of its efficiency. It is economical but certainly has many disadvantages. The oxygen chamber is expensive to build and maintain and few are available in this country. The modern oxygen tent and the excellent equipment available for creating the proper atmosphere in it have revolutionized the previous attitude of many of the profession. The pneumonia patient is too ill an individual to be the subject of experiment and the cre-

ation and maintenance of an atmosphere in which he is to live for days require expert knowledge. The oxygen content must be properly regulated and due attention given to the temperature, humidity and other factors. Once a pneumonia patient has been placed in the oxygen tent he should remain there until convalescence has been well established. There is considerable difference of opinion as to when the administration of oxygen should begin. Some^{26, 27} recommend that it be administered from the time the diagnosis is made. We find it advocated with the first evidence of air hunger,³ with the first appearance of cyanosis,²⁸ and also with the appearance of such symptoms as increased pulse and respiratory rates, and nervous irritability.¹⁴ My impression is that oxygen certainly has a field of usefulness in pneumonia, but I prefer to wait until there are indications, if any, for its employment.

In 1912 Derose²⁹ recommended the administration of oxygen subcutaneously. This has recently been revived and has many advocates. Special apparatus for its administration is available. Its efficiency is far from universal acceptance.¹⁴ I have never employed oxygen in this way.

Artificial Pneumothorax, first advocated by Rood³⁰ in 1919 and largely employed in Europe, is now being revived in this country. Leopold³¹ recommends its use only in selected cases and with careful regard to indications and contraindications. He does not use it after the third day of the disease and does not think that it is advisable for children. The consensus of opinion seems to be against this measure.^{8, 32} I have never employed it.

26. Hick, F.: Use of Oxygen in Pneumonia, M. Clin. North America 22:75 (Jan.) 1938.

27. Moersch, H. J.: Oxygen Therapy in Treatment of Pneumonia, Proc. Staff Meet., Mayo Clin. 12:33 (Jan. 20) 1937.

28. Weiss, S.: Oxygen Therapy, Am. J. M. Sc. 193:721, 1937.

29. Derose, D.: Subcutaneous Injection of Oxygen: Its Indication, Techniques and Results, M. Press & Circ. 93:459 (May 1) 1912.

30. Rood, A. D.: Clinical Study of Influenza Pneumonia, New York State J. Med. 109:493 (March 22) 1919.

31. Leopold, S. S.: Artificial Pneumothorax in Treatment of Lobar Pneumonia, Ann. Int. Med. 19:19 (July) 1935.

32. Levy, M. D.: Modern Trends in Diagnosis and Medical Treatment of Lobar Pneumonia, Texas State J. Med. 33:414 (Oct.) 1937.

22. Cecil, R. L.; et al.: Community Provision for Serum Treatment of Pneumococcic Pneumonias; Report of Committee on Public Health Relations of New York Academy of Medicine by Special Sub-Committee, J. A. M. A. 109:1323 (Oct. 23) 1937.

23. Horsfall, F. L., Jr.; et al.: Antipneumococcus Rabbit Serum as Therapeutic Agent in Lobar Pneumonia, J. A. M. A. 108:1483 (May 1) 1937.

24. Lintz, W.: Remarks on Lobar Pneumonia, M. Rec. 143:59 (Jan. 15) 1936.

25. Lambert, A.: Some Effects of Vaccines on Antibodies in Pneumonia, Tr. A. Am. Physicians, 48:73, 1933.

Diathermy has been used in pneumonia, as it has in most other diseases. Coulter³³ states that it has no specific action but that it does relieve pain and is, therefore, a valuable adjunct in treatment. Cole⁸ questions its value. I have never ordered it in treatment but in consultation I have seen it used without unfavorable results. X-ray therapy has its quota of advocates^{34, 35} and some interesting statistics have been published.

Drugs: From time to time various drugs have been advocated as having specific value. Prominent among these is ethylhydrocupreine (optochin) which has been used rather extensively in Europe but infrequently here. Cole² reports that the results in laboratory animals have been encouraging but that its practical application to man is still undeveloped. After a thorough trial, Carr³⁶ has discontinued its use.

At one time quinine was relied upon and many still employ it. Its use is advocated by the Solis-Cohens, which fact alone would command our respect. I have had no experience with it in the treatment of pneumonia.

In symptomatic treatment many drugs have been recommended. The liberal use of morphine has been advocated³⁷ but the consensus of opinion is that its employment should be restricted to the relief of pain that cannot be controlled by simpler measures. Caution should be employed, especially in the later stages of the disease, as this drug directly depresses the respiratory center. Codeine will meet most of the requirements and I have employed morphine only twice in pneumonia in many years.

At one time digitalis was used as a routine measure by many of our best clinicians. Since the work of Wyckoff and his associates,³⁸ this drug has been used with de-

creasing frequency. Collins³⁹ states the present consensus of opinion when he says that digitalis is to be used in the presence of fibrillation, flutter and failing compensation. In the treatment of pneumonia, I employ digitalis for the same indications and use it in the same dosage as though pneumonia were not present. Barker⁴⁰ has recently advised small doses of digitalis in this disease. Cohn and Lewis,⁴¹ while they do not advocate routine digitalization, report a large series of cases treated at the Rockefeller Institute in which it appeared that digitalis, given sufficiently early and in sufficiently large doses, seemed to have favorably influenced mortality. Cornwall⁴² does not employ digitalis but recommends strophanthin in the presence of indications for cardiac support.

The status of alkalization is still undetermined. I have routinely employed sodium citrate and feel that it is of value.

No matter what treatment is employed, the general care of the patient is of paramount importance. Of the total number of pneumonia patients treated in the United States in the next twelve months, specific serum, used early and in sufficient dosage, will be available to a very small percentage of the cases.

The following points may well be emphasized: isolation of the patient, especially in type I and type II pneumonia;² absolute mental and physical rest; sufficient modified fresh air; the avoidance of drafts and chilling; the avoidance of drastic purgation;⁴² the avoidance of antipyretics, especially acetylsalicylic acid;¹ sufficient fluids;⁸ sufficient sodium chloride;⁸ and a diet consisting largely of carbohydrates, low in total amount, and one that is as free as possible from unfavorable side effects.¹ In treating the disease we must not neglect the patient. To impress this lesson we have

33. Coulter, J. S.: Medical Diathermy in Pneumonia, *M. Clin. North America* 22:61 (Jan.) 1938.

34. Fitzgerald, J. O., Jr.: Pneumonia—Especially 80 Diathermed Cases, *Virginia M. Monthly* 63:746 (March) 1937.

35. Powell, E. V.: Roentgen Therapy of Lobar Pneumonia, *J. A. M. A.* 110:19 (Jan. 1) 1938.

36. Carr, J. G.: Treatment of Pneumonia, *Journal-Lancet* 52:463 (Aug. 1) 1932.

37. Taylor, W.: Treatment of Pneumonia, with Particular Reference to Oxygen Therapy, *M. Rec.* 143:63 (Jan. 15) 1936.

38. Wyckoff, J.; et al.: Therapeutic Value of Digitalis in Pneumonia, *J. A. M. A.* 95:1243 (Oct. 25) 1930.

39. Collins, L. H., Jr.: Specific Therapy, Oxygen Therapy and Symptomatic Treatment of Pneumonia, *M. Clin. North America* 19:3 (July) 1935.

40. Barker, L. F.: Pneumonia in Adults, *J. M. Soc. New Jersey* 32:24 (Jan.) 1935.

41. Cohn, A. E.; and Lewis, W. H., Jr.: Lobar Pneumonia and Digitalis, *Am. J. M. Sc.* 189:457 (April) 1935.

42. Cornwall, E. E.: Analytical Report of 21 Cases of Lobar Pneumonia Treated by Special Method, *M. Times & Long Island M. J.* 63:4 (Jan.) 1935.

only to remember the history of our past experiences with typhoid fever and pulmonary tuberculosis.

SUMMARY AND CONCLUSIONS

The problem of pneumonia therapy is still with us.

The use of sulfanilamide is discussed and its limitations suggested.

Specific serum offers great promise but its proper employment is available only to the favored few.

Vaccines have not found an established place in therapy.

Oxygen has a large field of usefulness when properly used.

Artificial pneumothorax is still in the experimental stage.

Diathermy, x-ray and many other measures are discussed.

The general care of the patient is still the major factor in treatment.

INFANT MORTALITY*

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"Of all the joys that brighten suffering earth, what joy is welcomed like a new-born child?"

"A babe in a house is a well-spring of pleasure, a messenger of peace and love, a resting-place for innocence on earth, a link between angels and men."

In the last twenty-five years there has been a reduction of infant mortality, maternal mortality and maternal morbidity due to the fact that more attention has been paid to prenatal care and to other factors involved in infant welfare and public health. During the last five years there has been a greater effort to reduce further the danger and pain involved in motherhood. Thus, the expectant mother should realize, when she enters the doctor's office, that there is a vast experience found in a historical background rich with scientific experimentation and of effort and self-denial on the part of the medical profession.

Prenatal care means sensible, sane, hygienic living during the period of pregnancy. The mother should not fail to exercise by walking at least one mile a day. She can

carry on ordinary procedures in the house, but should avoid, during the last three months, such heavy work as scrubbing floors and washing. There should be no long trips which require riding over rough roads. She should be considerate and take one or two hours of rest on the bed daily and about ten hours at night. She requires more rest at this important period of her life than at any other time.

Her diet should consist of simple foods, with a well-balanced diet containing a preponderance of calcium. A goodly supply of fruits and vegetables and about one quart of milk daily are important components of the diet. Moreover, it is well to supplement the diet with one tablespoonful of cod-liver oil daily. The use of such things as milk, orange juice and cod-liver oil will help protect the teeth. In days gone by, it was thought necessary to lose a tooth for each child. This is not true. If the mother does not provide enough calcium in her diet, the body will take the calcium from her teeth to help form the bones of the baby. This is why she should visit her dentist two or three times during the nine-months' period and should be very careful with her diet.

During the last three months of pregnancy the patient is to visit her doctor once every two weeks, or more frequently if the obstetrician deems it necessary. He will make a urinalysis at each visit and determine the blood pressure. At times, as indicated, examinations will be made to be certain that everything is progressing in a satisfactory manner. Blood counts will also be made to determine the state of anemia and institute proper treatment.

The Wassermann test should be made, to be certain that there will be no transmission of venereal disease to the innocent child. The patient will be advised to take from eight to ten glasses of water daily, in order to help rid the body of waste by way of the kidneys and bowels. The life of the future individual rests in the hands of the mother and, indirectly, in the hands of the physician. This is why such great stress is placed on prenatal care.

An infant, to be well born, must have a strong background. The proper setting for a strong, well-born babe must be two strong, healthy parents. Many have thought that, to train the little one, the mother must, during pregnancy, think and act in the very

*Presented in scientific meeting of the medical staff of Citizens' Hospital, Talladega, February 11, 1938.

way she wishes her child to do when growing up. It is very true that all helps, yet we see the reverse much oftener.

A poster at a health exhibit read: "Do not give your children coffee and tea. Coffee and tea are a poison for children." But if coffee and tea are bad for the child after its birth, are they not bad for the child before its birth? And yet, during pregnancy, mothers seem to think it matters not what they eat or drink. Even physicians are apt to say to them, "Eat and drink anything you desire." The fact is, if ever women should be careful in the selection of their food and drink, it is during this period; and if ever self-control is needed, it is then. The craving in children for something more stimulating than water and for narcotics may in many instances be traced to the mother who gave way to her appetite and emotions before their birth. Many a parent has doubted the promise, "Train up a child in the way he should go; and when he is old, he will not depart from it," when the trouble was that the training did not begin early enough. Prenatal care is very important, and wise mothers begin in young womanhood to form the foundation for their offspring in robust health and sufficient training to keep that which they possess.

If one were to read in the newspapers on Mother's Day, "Ten Thousand Women to Be Put to Death in the United States for the Crime of Being Mothers!" how dumbfounded one would be. Yet in a very real sense that gives a picture of the truth; for, according to Dr. Louis I. Dublin, the distinguished statistician of the Metropolitan Life Insurance Co., ten thousand American women died in childbirth last year who need not have died if they had had adequate care.

The sobering record is that 20,000 women die in the United States every year from causes related to childbirth—the highest record of any progressive nation. I repeat: In these United States, known throughout the earth for a prosperity unequaled in history, 20,000 mothers die each year in childbirth. The richest country in the world, we have its highest maternity death rate.

Following close upon this record, we are fifth in those nations claiming a high state of civilization whose infant mortality rate has reached alarming proportions. Each year 100,000 of our babies are born to die within their first month. These figures are

not figments. They are facts—the result of the able research and computation of the Bureau of the Census of the Department of Commerce, the Children's Bureau of the Department of Labor, the American Child Health Association, the Maternity Association, Incorporated, and other agencies whose faithful purpose it is to give to every child and to the mother who bears it a chance for a full and abundant life.

That we are so far from our ideal, according to constituted authorities, is due but to one cause—our inadvertence in providing proper care for mothers before, during and after childbirth and for babies during their first tender weeks. And this neglect, as well as the figures quoted, applies not to any one class but to the rich, to those of medium means and to the poor; to the white and to the colored; to the native-born and to the alien; to those of the cities and of the rural districts alike.

Of 100 infants dying during their first year, 21 die the day they are born, 18 before the end of the first week, 14 before the end of the first month, and 47 at the approximate rate of 4.5 per month during the other eleven months of the year. The majority of these deaths are also preventable.

Premature infants are especially liable to injury during labor, even where it is normal in every way. They are especially liable to fall a prey of infections. Only too often they do most unexpected things. Strange to relate, they behave more outrageously in institutions than in the home. Fatigue, chilling, too much attention and greater risk of infection possibly account for this well-known fact. Unsuspected cerebral hemorrhage is a very common cause of death in the premature child. Their tissues are very easily injured.

All infants are very easily fatigued. They require much natural sleep. One can, I think, pay too much attention to them, especially by repeated washing, dressing, changing and feeding. During the first few days of life, I believe there is a tendency to overfeed. Their stomachs are very small. Colostrum, in small amounts, is their best and most easily digested food. I think their water needs are high. An infant asleep in its cot or lying awake gazing at the ceiling is constantly losing water from its lungs, skin, kidneys or bowels. They readily become dehydrated and it is no easy matter,

sometimes, to replace fluid lost in adequate amounts at short notice.

Please remember how easily infants are infected. They fall a ready prey to germ diseases, especially those caused by *B. coli*, the streptococcus and the pneumococcus. The commonest routes of infection are, unquestionably, the mouth, the lungs and the skin. Before the aseptic toilet of the cord was introduced, the umbilical route was the commonest one. It is extremely difficult sometimes to know how an infant contracts an infection. The mother's health and that of the attendants may be quite good. On the other hand the mother may have a severe infection and fail to communicate it to her baby.

When a child is not doing well, try to think of something other than the quantity and quality of its food. Mother's milk and reasonable milk mixtures—clean, of course—are not so terribly poisonous as to cause serious illness in the child. From responsible sources of information, we glean that these preventable causes are reducible to two common denominators—the unskilled doctor, or, where the former has not acted, the unskilled midwife; and the need for more and better nursing. Today in vast areas no doctors are available. In the mountain districts of the South and in small towns throughout the country where the population is either poor or scattered, a doctor can find no sustenance. Or his field of endeavor may be so extended and extensive that he cannot give his patients emergency attention. With the old family physician dying out, the younger men refuse to leave the cities. Others, behind the times or the product of days when little was known about prenatal care, neglect those measures necessary to the well-being of the mother and her child.

Regarding midwives, we quote from the report of the Children's Bureau: "There are about 45,000 midwives in thirty states. Of these not more than 5,000 have had any training. And in several of these states, where the infant mortality rate and the maternity death rate are high, there is neither supervision of midwives, statutes for licensing them, nor for revoking of license for cause."

The nursing situation is more or less an economic one. In the cities and in the more progressive small towns, hospitalization at

childbirth is the rule. Where this is not possible there is the skilled doctor and the trained or practical nurse. But there are hundreds of fair-sized towns, as well as small ones, which cannot afford a hospital and which are remote from cities. Eighteen hundred counties, all told, have neither doctor nor even a public health nurse, and thousands of expectant mothers are brought to depend upon untrained and ignorant midwives or neighboring women who have nothing to guide them but their own experience. Until this is remedied, little or no decrease in the infant and maternity death rate can be accomplished.

In each state, in each city, in each community, man for man and woman for woman, we must work for generous and active legislation so that this stigma may be removed from our escutcheon. If a pest threatens our cattle or our sheep or our swine, if our orchards are menaced by the Mediterranean fly, our cotton fields by the boll-weevil, we cry out for protection, forcing, by public hue, the passage of laws and appropriations for emollient measures. To the mother and her child crying out for life itself we too often turn an unheeding or a careless ear. Prosperity is truly gauged only by the strength of each strand in the cable which maintains it. Without vision we shall be if we do not have a care. In the mother and the child is vested the complete character of our future civilization.

IRRITABLE COLON

By
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The term "irritable colon" is used to designate a condition in which there is a disturbance in the function of the large intestine in the absence of any definite anatomic lesion. The condition is characterized by abnormal bowel function, by the presence of abnormal amounts of mucus in the stools, and by a varying amount of abdominal discomfort on the part of the patient.

When the bowel content passes through the ileocecal valve into the beginning of the large intestine, it is in a fluid or semi-fluid state. As it passes slowly along the large intestine, fluid is removed from it and by the time it reaches the rectum it has been dehydrated until it forms a firm, plastic mass.

This mass is molded by the rectum and is then ready to be expelled as a normal bowel movement. A normal bowel movement is one that is firm and compact, non-spongy and non-porous, and of about the same shape and consistency as a ripe banana. If for any reason the material is hurried through the gastro-intestinal tract and is expelled in a mushy or liquid state, the condition is that of a diarrhea. There are, of course, varying degrees of diarrhea, depending on the number and the consistency of the bowel movements. A patient may have only one bowel movement daily and still have a definite diarrhea.

Constipation is just the opposite of diarrhea. If for any reason the passage of material through the gastro-intestinal tract is delayed, or if the absorption of fluid from the bowel is more rapid than normal, as in cases of marked dehydration, then the bowel content becomes dehydrated beyond the normal and the material becomes hard, dry and ball-like. A constipated patient may have numerous small bowel movements daily. This is due to the constant irritation of the rectum by the abnormally hard and dry material.

I wish to emphasize the fact that the number of bowel movements and the quantity of material in each movement are only of secondary importance. The majority of patients will have one normal stool daily, some will have two, but it is rare to find an individual who will have as many as three normal stools daily. Still other patients will have a normal stool every other day, or in some cases one normal bowel movement every third or fourth day. As long as the material in the stool is of the normal consistency it does not matter how often or how rarely the movements occur.

ETIOLOGY

The large intestine is said to be responsible for 75% to 80% of all abdominal discomfort. Of these about 30% are probably due to irritable colon. The condition may occur at any age from early childhood to old age, but the majority of the cases occur between the ages of 20 and 40 years. It is more common in females than in males and is commonly seen in the hypersensitive, or "neurotic type" of individual.

Under direct etiology may be considered the factors which influence the rate of peristalsis of the large intestine:

I. Bowel content—

- (a) The bulk of material acting as a mechanical stimulus;
- (b) Chemical stimulants, such as cathartics, alcoholic beverages, etc.;
- (c) Thermal stimulants, as hot or cold foods and drinks.

II. Toxic materials reaching the bowel through the blood stream, as in acute infections.

III. Nervous stimulants, as in cases of great emotional stress and strain, or in cases of neurasthenia. Hyperthyroidism is thought to affect the bowel in this manner.

A few of the more important predisposing factors are as follows:

- (a) Frequent use of laxatives or cathartics is the most common cause. This often results from the treatment of chronic gall-bladder conditions, or from the treatment of imaginary constipation;
- (b) Use of large and stimulating enemas;
- (c) Improper diet;
- (d) Social, business or sexual worries;
- (e) Sedentary occupations;
- (f) Recurring acute infections;
- (g) Over-indulgence in alcoholic beverages;
- (h) Achlorhydria or achylia gastrica.

SYMPTOMS

(1) Abnormal Bowel Function. The first symptom of an irritable colon is that of abnormal bowel function. This is usually in the form of soft and mushy stools, varying in number from one to three or four daily. In some cases there may be alternating diarrhea and constipation, while in others there may be only constipation.

(2) Abdominal Discomfort. This begins as a feeling of fullness and pressure, usually over the entire abdomen but may be limited to one side or to the epigastric region. The discomfort may shift from one place to another. This discomfort is worse during or within 30 minutes after a meal. The larger the meal the earlier the distress appears and the more severe it will be. It may also follow an ice cold drink or any very hot drink. As the condition advances the abdominal discomfort may increase in intensity and may amount to actual pain. The pain, when present, is colicky or griping in character and shifts from place to place and is associated with a desire to defecate. It is char-

acteristic for the discomfort, or pain, to be relieved by a bowel movement or by passing a sufficient quantity of flatus. "Belly consciousness" (Kantor) is a common symptom in these patients.

(3) Belching. The majority of these patients are chronic belchers. The belching is always of the voluntary type.

(4) Nausea may be present in the more severe cases and may be associated with vomiting if the abdominal pain is severe.

(5) Abdominal distention or flatulence is a common symptom and is often responsible for a certain amount of palpitation.

(6) Dizziness is often associated with the fermentative type of dysfunction. It is usually a late manifestation and may be so severe as to suggest some disease of the inner ear.

(7) Headaches are common. Patients suffering from migraine often develop an irritable colon as a result of the frequent use of laxatives and enemas in an effort to relieve their migraine.

(8) Irregular Defecation. Another important symptom is the desire to defecate at unusual hours of the day. Many of these patients will have to leave the dinner table to have a bowel movement. Others may have to go to the toilet immediately on arising in the morning, or may even have to get up during the night to have a bowel movement.

(9) Loss of Weight is usually slight, except in the severe case, and is probably due to sitophobia.

(10) Fear is present in almost 100% of these patients. They are convinced that they have some organic disease. Many of them have been subjected to appendectomy or cholecystectomy, or possibly both, without any relief of their symptoms. So, it is only natural that they should fear some organic disease.

DIAGNOSIS

In making a diagnosis of irritable colon the burden of proof is on the physician. He must exclude all forms of anatomic lesions of the gastro-intestinal tract, as it is only in the absence of any definite lesion that the diagnosis of irritable colon is ever justified.

A complete and accurate history is absolutely essential and this point cannot be stressed too strongly. Question the patient carefully about his symptoms, diet and hab-

its. Get an accurate description of the bowel movements. Do not accept the patient's word for it that the stools are normal as many people consider a soft or mushy stool as being ideal. To get a complete history in many of these cases requires a great deal of patience on the part of the doctor.

A thorough physical examination should be made on every case. In thin individuals the cecum may be felt, and is large and distended with gas. The descending colon and sigmoid are spastic and rope-like under the examining hand. The large bowel is tender throughout its extent. Otherwise the physical examination is entirely negative. The lower end of the bowel should be examined by means of the finger and by the use of the anoscope and sigmoidoscope. A gastric analysis should be run on each case as many of these patients have achylia gastrica.

Stool examination is an essential step in making a diagnosis of irritable colon. The characteristic stool is soft and mushy; acid in reaction; shows fermentation by the presence of numerous gas bubbles on the sides and bottom of the glass container; has a sour penetrating odor; has macroscopic mucus present but no pus or blood; and if stained with iodine will show the presence of undigested starch particles. All stools should be tested for the presence of occult blood, ova and parasites, and for bile if the color of the stool is at all suspicious.

The fluoroscope should be used, whenever possible, to confirm the diagnosis, but not to make it. The fluoroscope is an excellent means of ruling out any anatomic lesion of the colon, and this is its chief use here. The opaque enema is of greater value than the barium meal. When an irritable colon is filled with the opaque enema the cecum is usually distended, but the rest of the large bowel will go into spasm, either in segments or throughout its extent. The patient's typical distress will be reproduced by the enema, and will be relieved when the enema is expelled.

TREATMENT

The first principle in the treatment of an irritable colon is to give the bowel a chance to rest. This is best done by removing all forms of irritation, such as cathartics, large or stimulating enemas, coarse foods, ice cold drinks and alcoholic beverages. It is wise to put these patients to bed for a week or ten days, but if this is impossible they should

have a period of complete relaxation in the middle of each day. An electric pad or hot water bottle to the abdomen will be very beneficial as it promotes rest and relaxation.

The patient is given a soft, bland diet that is well balanced as far as carbohydrates, fats, proteins and vitamins are concerned. Vegetables should be pureed at the beginning. In the milder cases it may be necessary only to remove from the diet the raw fruits and the raw vegetables. More severe cases may have to be placed on a vegetable and fruit free diet for a short time. Each case must be handled individually and there is no set routine procedure that can be outlined that will serve for all cases. By trial each case is given a diet that is just bland enough to produce normal bowel function. After this has been done, additions to the diet are made very slowly, never more often than every five to seven days. After a period of normal bowel function, the more stimulating foods are gradually added to the diet. If all fruits and vegetables have been removed from the diet, they are added in the following order: (a) cooked vegetables; (b) cooked fruits; (c) raw vegetables; and (d) raw fruits. When the additions to the diet are being made the bowel function must be watched carefully and if there is any disturbance of that normal function, as soft stools or any return of the abdominal discomfort, we must at once revert to the last diet on which normal bowel function was obtained. If this procedure is followed, the vast majority of these patients will be able to tolerate an unrestricted diet eventually. Fried, greasy or highly seasoned foods are not borne well as a rule.

Drug therapy will also vary with each individual case. The tincture of belladonna is almost indispensable in the treatment of this condition. It is wise to start with a small dose, about 8 minims, before each meal and gradually increase this until the physiologic limit is reached. The drug is useless unless given in sufficient dosage to produce a slight dryness of the mouth. Do not give enough to cause any disturbance of vision. The drug should be continued over a minimum period of two or three months with short rest periods.

Sedatives, such as bromide or phenobarbital, will be of great value. These drugs are to be used only for a short time until the

patient's general condition is improved. If it is necessary to continue sedatives for any length of time, the bromides are safer.

If there is an absence of free hydrochloric acid in the stomach secretions, dilute hydrochloric acid may be of real value.

In some cases the marked change in the diet and the bed rest may result in a temporary constipation. If this occurs it may be corrected by any one of the following methods: (a) Plain mineral oil by mouth. This should be given as a single dose at bedtime. Begin with a tablespoonful and increase or decrease the dose as needed. Some of the other simple bulk-producing substances may be used as long as they do not contain any form of laxative drug. (b) A small tap water enema may be given in the morning after breakfast. Use only a half pint or never more than a pint of water. Give just enough water to distend the rectum and produce the normal desire for a bowel movement. Colonic irrigations have no place in the treatment of this condition. (c) In other cases a retention enema of 2 or 3 ounces of warm mineral oil may be given at bedtime and retained over night.

After the acute condition has subsided it is necessary to advise the patient about his routine of life. The reeducation of the patient is an essential part of the treatment. Graduated exercises, rest, fresh air, plenty of fluids and regular habits, especially as concern his meals and sleep, are important. The patient must be taught the normal physiology of the bowel, and be told to always obey the first impulse that comes for a bowel movement. This should be a feeling of fullness and pressure in the rectum and should never be associated with any form of abdominal discomfort. It is far more important to obey the first impulse that comes than it is to try to establish the so-called "habit-time" for a bowel movement.

PROGNOSIS

The prognosis in these cases should always be guarded. It is necessary to remember that we are dealing with hypersensitive patients. They develop erroneous ideas about what foods they can or cannot eat, and it is very difficult to get many of them to cooperate about their diets and to refrain from taking laxatives. Recurrences are fairly common but a complete cure can be obtained in the majority of the cases if the

physician is willing to spend the necessary time and energy. He must have the absolute cooperation of the patient.

SUMMARY

Irritable colon is a common gastro-intestinal disturbance. It may occur at any age. It is more common in women than in men. The diagnosis is made after a careful history, a complete physical examination and a complete stool examination. The fluoroscope should be used to confirm the diagnosis, and as a means of ruling out any definite anatomic lesion of the colon. The treatment of each case is an individual problem, in which diet, drugs and general hygienic measures all play important parts. Recurrences are fairly common but good results can be expected in a majority of cases if the physician can get the absolute cooperation of the patient.

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TREATMENT OF LOBAR PNEUMONIA

By

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In the treatment of pneumonia there are certain fundamental principles that must be observed:

(1) Absolute rest is imperative, including the total avoidance of moving, turning, or disturbing the patient by a single unnecessary movement.

(2) Fresh air is essential, but it is just as great a mistake to have the room cold as to overheat. A temperature level of 65 to 70 degrees is best. Moderate, sane ventilation, without any draught upon patient, is adequate and desirable.

(3) The patient should be kept warm at all times with blankets, and with hot water bottles to feet and sides if necessary.

(4) Greasy liquid concoctions and the like are obnoxious and generally useless.

(5) Proper diet is one of the most important of all measures. The patient should have a well-balanced liquid or semiliquid diet, with feedings at three-hour intervals, and large quantities of water and fruit juices between feedings.

(6) The mouth and teeth should have scrupulous care. A good mouth wash and gargle, such as a solution of sodium perborate, should be used regularly.

(7) Codeine, grains $\frac{1}{4}$ to $\frac{1}{2}$, should be used when necessary to control and modify cough. It is a most useful remedy and the only one that should be used for this purpose. Expectorant cough mixtures should not be used until after the crisis.

(8) For tympanites I know of nothing better than warm soda water enemata, a colon tube and pituitrin.

All the above are fundamental measures, applicable to all cases of pneumonia regardless of other treatment.

It is now my purpose to present what has proven in my hands a fairly successful treatment in lobar pneumonia. Immediately after diagnosis is made I give my patient a single dose of 2 to 4 grains of calomel, followed with a saline. The importance of this preliminary catharsis can scarcely be overestimated. Realizing the importance of trying to maintain a normal alkaline reserve, I

give one dram of citrocarbonate every four hours until the urine is strongly alkaline, then one dram three times daily. This also acts as a means of preventing acidosis.

Dr. Cyrus W. Strickler of Atlanta says: "I am convinced, after comparison of results, that Norwood's tincture of veratrum in some way has a favorable influence upon the course of the disease." I agree with Dr. Strickler. I am convinced after many years of use that Norwood's tincture of veratrum has a favorable influence upon the course of the disease. I give it with very few exceptions routinely in doses of two to three minims every three hours. I continue this, as a rule, from two to five days, depending upon the course of the disease, the volume of the pulse, and the pulse rate as to when to discontinue its use. But I have often given it for 7 to 8 days, even up to the time the crisis had begun, without any harmful effect.

In my opinion Norwood's veratrum is one of the most valuable of all therapeutic agents in the treatment of lobar pneumonia. The only exception would be a patient with an extremely low temperature or blood pressure or some organic heart lesion.

The administration of glucose has a true place in the therapy of pneumonia; early in the disease it should be given in large quantities orally. I usually give it in the form of Karo syrup in orange juice, lemonade, or other fruit juices. It acts as a food, a stimulant, and a preventive of acidosis. The important thing is to begin it early and give in large quantities. Later in the disease, when the patient is more acutely ill, intravenous therapy may have to be resorted to. I usually give 20 to 50 cc. of a 50% solution once or twice daily.

In the past few years I have used practically all the serums, antibody solutions, some vaccines, and pneumococcus immunogen in the treatment of lobar pneumonia. My best results have been obtained from pneumococcus immunogen combined. I have used this preparation routinely for the past seven or eight years and have obtained very satisfactory results from its use, some of them almost unbelievable. The most important point is to begin the administration early in the course of the disease; in fact, I give it where there is the least suspicion of pneumonia. It is practically free from reaction either local or systemic. I begin by giving 1/2 cc. pneumococcus immunogen in-

tramuscularly every ten to twelve hours, gradually increasing the dosage daily up to one or 1 1/2 cc., or until I have given a total of 5 to 10 cc. I have treated many cases in the past few years by this method with crisis anywhere from three to five days. In a number of instances where immunogen was begun real early after the initial chill, I have seen the temperature drop to normal and the patient apparently well in 36 to 48 hours, although consolidation was still present, which rapidly cleared up, no stimulation of any kind being necessary.

The most important point in any specific treatment in pneumonia is to begin early, as few results may be expected after the third day.

In my opinion more pneumonia patients have died from overstimulation than from understimulation. The routine use of digitalis in pneumonia is open to serious discussion. In my opinion the time-honored custom of giving digitalis in pneumonia should and soon will be discontinued. I rarely give digitalis in pneumonia; in fact, I never give stimulation of any kind in pneumonia except glucose, until there are definite signs of beginning cardiac failure. Then strychnine, coramin and whisky have served the purpose best for me. In this connection, allow me to call your attention to the administration of oxygen when indicated.

In summary, I would say there are five important points in treating pneumonia:

- (1) The fundamentals.
- (2) Give pneumococcus immunogen combined early in the course of the disease.
- (3) Give Norwood's veratrum from the beginning.
- (4) Give glucose early and in large quantities.
- (5) Do not overstimulate.

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PHENOLPHTHALEIN ONCE AGAIN

Soper¹ asserts that "my experience as a clinician had given me a strong impression that the habitual use of the drug (phenolphthalein) as a laxative is harmful to a large percentage of the patients who employ it. To clarify the matter I examined one thousand consecutive case records of patients who presented themselves to the clinic with symptoms referable to the digestive tract. (Feces analysis is made in each case regardless of symptomatology.) I wished to determine the effects of the continuous daily dose of the drug over a period of two months or more, excluding those cases in which a single dose produced toxic symptoms such as skin eruptions, etc." And, after doing this, Soper concluded that of his one thousand patients "over fifteen per cent (177) in the gastro-enterologic clinic employed phenolphthalein as a habitual laxative. In a large percentage (152) a diagnosis of catarrhal colitis was made.

"A small percentage (22) had established a tolerance for the drug and exhibited no signs of toxicity. Chronic stomatitis was present in three patients addicted to the drug.

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"Considering the large number of preparations of phenolphthalein in the market, the physician must be on guard in his selection of laxative drugs. Many of the manufacturers of agar and oil mixtures slip in a dose of phenolphthalein to make the preparation more active, thereby deluding the doctor, who believes that he is prescribing a nonirritant mixture."

These figures and conclusions, reached after such careful and thorough investigation and coming from one so eminent as Soper, will not be easily refuted. The work of Soper is a most recent addition to a growing and convincing list of articles in both American and European journals calling attention to the fact that, for many persons, phenolphthalein is a dangerous drug. But, regardless of the toxicity of phenolphthalein, there can be no possible justification for its inclusion in preparations which are not labeled as containing phenolphthalein. Apparently much time will elapse before the food and drug laws will compel the honest and adequate labeling of all food and medicinal products. And, in the meantime it behooves each practitioner to be on the alert against ordering preparations which may prove very harmful to many of his patients. And he should remember Soper's warning that phenolphthalein is contained in more than one hundred and twenty-five proprietary preparations put up in the form of laxative drugs, chewing gum, confections, fruits and biscuits; that it is used for pink icing on cakes, for coloring candy, and in pink mouth washes and dentifrices, and that, "when exudative lesions of obscure origin are present phenolphthalein as the etiologic agent should be considered."

CONFERENCE ON RURAL MEDICINE

The Mary Imogene Bassett Hospital, of Cooperstown, New York, held a two-day session—October 7-8, 1938—at which time the topic of rural medicine was discussed from various angles by outstanding men in both the medical and public health field. The preliminary announcement of this meeting portrayed so vividly and succinctly the importance and scope of rural medicine that the liberty is taken of quoting it in full:

"Between country and city important differences in opportunities to share in the benefits of modern American civilization clearly exist; eco-

nomic, educational, recreational, and medical resources are unequally distributed. In some respects urban communities have the advantage; in others rural neighborhoods are more abundantly endowed. Libraries, theaters, museums, and institutions of specialized or higher education are almost exclusively urban; opportunities for a personal experience of nature, for the enjoyment of peaceful seclusion, hunting, and fishing, birds, trees, and other open air recreations are assets which the rural community possesses in easy abundance.

"But what is the situation in regard to medical services? What about the opportunities for early diagnosis of cancer, syphilis, tuberculosis and pneumonia? What about the chances of x-ray or radium treatment? And how are occupational hazards distributed—is the agricultural or the industrial worker more likely to be disabled or killed by accident? Where do the milk-borne diseases—undulant fever, septic sore throat, tuberculosis, typhoid—find the best opportunities to perpetuate themselves? It is easy to point out many examples in this country of maldistribution of opportunities for hospitalization, of diagnostic laboratory facilities, of competent surgical judgment and skill. And what of the physician himself—what are his opportunities for postgraduate education—is it possible for him to acquire the knowledge necessary to practice the newer developments in medicine and surgery?

"Even a quick appraisal of farm and village life versus town and city life reveals impressive and socially significant inequalities in the distribution of the products of progress; inequalities which must influence not only trends of population, but also the ideas, the attitudes, the habits and the health of large groups within the population.

"In this country there are 55 million people living in rural communities. From the point of view of medicine and its ramification it seems a matter of importance to consider as separate questions and distinct problems those which are peculiarly related to rural life. As a result of contact with many of these problems of rural medicine, the Staff of The Mary Imogene Bassett Hospital have undertaken to conduct a Conference on Rural Medicine. The purpose of this Conference is to define and, if possible, by description and discussion, to illuminate some of the problems of Rural Medicine. The four general subjects will be:

"1. Rural morbidity. Discussions of this subject will be in part based upon a statistical analysis of upwards of 15,000 hospital admissions in a rural area of New York State.

"2. Public health programs in rural areas. The topics to be considered will be (a) health department programs and (b) school health programs.

"3. Postgraduate medical education in rural areas.

"4. The economics of rural medicine. The subdivisions of this subject will be (a) the rural hospital, (b) the rural physician and (c) the member of a rural community."

BETTER DAIRY AND BEEF HERDS

Recently, a brief editorial, with the above heading, appeared in one of the Alabama newspapers and was as follows:

"The bringing of a number of Guernsey bulls to Houston county is hailed by the Dothan Eagle as one of those important livestock events so full of significance for the future of Alabama's farm industry. Of course it is an important event because it is increasing evidence of the interest of Alabama farmers in cattle raising and dairying. It perhaps doesn't make so much difference whether it be Guernseys or some other true and tried breed of cattle. The important thing is that the farmers of the state are reaching out for fine stock to improve the quality and character of their herds. There is plenty of room for all. The fine Guernseys and Jerseys which the state has brought to Kilby Prison, the black Angus stock over in Autauga county, the short horn beef stock so prevalent throughout the black belt; all these are indicative of the determination of the people of Alabama to build up a great livestock industry, and the progress being made along that line is one of the most gratifying things in the state's present life."

Maybe, bye and bye, the people of Alabama will turn attention to the human strain and "reach out" for scientific ways and means for improving "the quality and character" of the species known as the "genus homo."

SOUTHERN MEDICAL ASSOCIATION

OKLAHOMA CITY MEETING

"The annual meeting of the Southern Medical Association is held this year in Oklahoma City. Many will be glad of this opportunity to visit Oklahoma, 'out where the West begins.'

"The meeting will open on Tuesday morning, November 15, featuring 'Oklahoma City Day,' a program of short clinical presentations by Oklahoma City physicians. The nineteen sections and five conjoint meetings of the Association will begin Wednesday, running through Friday noon. The general session, featuring the address of the President, Dr. J. W. Jervy, of Greenville, South Carolina, to be followed by the President's Reception and Ball, will be held on Wednesday evening. The alumni reunion dinners will be on Thursday evening. A public session, a program for the laity, will be held on Tuesday evening. All scientific sessions and exhibits will be held at the Municipal Auditorium. Oklahoma City has developed a most attractive civic center and has a new and very modern Municipal Auditorium. All exhibits and meetings will be situated under one roof in this Auditorium."—*South. M. J.*, October 1938.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

SPECIAL SESSION OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

J. N. Baker, M. D.

State Health Officer and Delegate from Alabama

On September 16th and 17th, 1938, upon call issued by the Speaker and authorized by the Board of Trustees, the House of Delegates met in special session in Chicago, for the specific purpose of giving consideration to the "five-point" program which had recently been submitted by the Technical Committee on Medical Care of the President's Interdepartmental Committee at the National Health Conference held in Washington in July. This was the third special session in the Association's long life; the first occurring shortly after this nation's entrance into the World War in 1917, for the purpose of mobilizing and making immediately available to our fighting forces the medical talent and strength of the organized medical profession of the country; the second was held shortly after the passage of the Federal Social Security Act in 1935, which legislation made provision for certain health and medical services on a nation-wide scale. These two, while important at the time they were held, cannot compare in importance with the third and last, just concluded.

At this meeting were present not only the official delegates from the constituent state medical societies, but officers of many of these, including editors of their respective state journals. Representing Alabama were President Seale Harris, Sr., and Secretary Douglas L. Cannon, as well as Dr. J. S. McLester, an ex-president both of our Association and of the American Medical Association, and the two official delegates, A. A. Walker and J. N. Baker. Other kindred professional organizations having representatives sitting in at the meetings were the Canadian Medical Association, the American Dental Association and the National Medical Association, comprised of some 5,000 Negro physicians. Of a possible 174 delegates comprising the House, 165 were in attendance.

Following through with its customary procedure, the House opened its deliberations with brief addresses by the Speaker, the President and President-Elect and the Chairman of the Board of Trustees. Each of these was timely and pertinent, touching upon and stressing various phases of the complex problem with which the House of Delegates had subsequently to deal. Briefly and in substance the five proposals previously submitted by the Technical Committee and which were to receive consideration and to be acted upon by the House fell into the following categories:

- (1) Expansion and strengthening of existing public health services;
- (2) Increased hospital facilities for the needy and medical needy;
- (3) Improved and expanded medical care, where needed, for the groups just mentioned;
- (4) A general program for medical care; and
- (5) A program for compulsory sickness insurance covering the entire population of the United States.

Dr. Arthur W. Booth, Chairman of the Board of Trustees, in presenting the Board's charge to the House of Delegates, expressed its sentiments in the following forceful language:

"Your responsibility is great. The medical profession of the entire country awaits anxiously the answer that you will make. Recognizing the manner in which the House of Delegates has in the past accepted the obligation placed on it to represent the point of view of 110,000 American representatives, we are confident that you will make your decisions calmly, carefully, and with the same sympathetic consideration for the needs of the people of this country that has characterized your actions in the past.

"The results of your deliberations as expressed in this special session of the House of Delegates will be the guiding and determining voice for the medical profession, on those whom you authorize to make your choice effective, until the House of Delegates may at some future time determine any other action."

Following upon these addresses, the Speaker appointed five subcommittees, of five members each, to hear and receive evidence and to consider each of the five sec-

tions or recommendations made by the Technical Committee; which subcommittees, upon the completion of their tasks, were to sit jointly and frame an amalgamated report for consideration, discussion, amendment and final adoption by the House as a whole.

Before recessing for committee work, many resolutions were introduced before the House by members, bearing on various phases of the problem under consideration and emanating from and endorsed by their respective state associations. These, as presented, were referred for consideration without discussion to the appropriate committee.

The remainder of the first day—extending far into the night—and a portion of the second were given over to committee hearings and discussions, during which time interested delegates appeared before them and presented informally and frankly their views and suggestions. This approach to procuring the sentiments and views of physicians from all parts of the country and from specialists in all walks of the profession proved to be a happy one and gave these committees a broader and sounder perspective and background upon which to build their final recommendations. Unstinted praise should be given the members of these committees for the thorough and painstaking manner in which they assembled and analysed the mass of evidence and material submitted to them. The finished product of their labours, and as finally altered by the House, sitting as a whole, is given below. Each section of this report, seriatim, was carefully considered and acted upon; the complete report, as amended by the House, was then unanimously adopted by a rising vote.

ACTION BY HOUSE OF DELEGATES OF AMERICAN MEDICAL ASSOCIATION ON NATIONAL HEALTH PROGRAM

"1. Under Recommendation I on Expansion of Public Health Services: (1) Your Committee recommends the establishment of a federal department of health with a secretary who shall be a doctor of medicine and a member of the President's Cabinet. (2) The general principles outlined by the Technical Committee for the expansion of Public Health and Maternal and Child Health Services are approved and the American Medical Association definitely seeks to cooperate in developing efficient and economical ways and means of putting into effect this recommendation. (3) Any expenditures made for the expansion of public health and maternal and child health ser-

vices should not include the treatment of disease except so far as this cannot be successfully accomplished through the private practitioner.

"2. Under Recommendation II on Expansion of Hospital Facilities: Your Committee favors the expansion of general hospital facilities where need exists. The hospital situation would indicate that there is at present greater need for the use of existing hospital facilities than for additional hospitals.

"Your Committee heartily recommends the approval of the recommendation of the Technical Committee stressing the use of existing hospital facilities. The stability and efficiency of many existing church and voluntary hospitals could be assured by the payment to them of the costs of the necessary hospitalization of the medically indigent.

"3. Under Recommendation III on Medical Care for the Medically Needy: Your Committee advocates recognition of the principles that the complete medical care of the indigent is a responsibility of the community, medical and allied professions and that such care should be organized by local government units and supported by tax funds.

"Since the indigent now constitute a large group in the population, your Committee recognizes that the necessity for state aid for medical care may arise in poorer communities and the federal government may need to provide funds when the state is unable to meet these emergencies.

"Reports of the Bureau of the Census, of the United States Public Health Service and of life insurance companies show that great progress has been made in the United States in the reduction of morbidity and mortality among all classes of people. This reflects the good quality of medical care now provided. Your Committee wishes to see continued and improved the methods and practices which have brought us to this present high plane.

"Your Committee wishes to see established well coordinated programs in the various states in the nation, for improvement of food, housing and the other environmental conditions which have the greatest influence on the health of our citizens. Your Committee wishes also to see established a definite and far-reaching public health program for the education and information of all the people in order that they may take advantage of the present medical service available in this country.

"In the face of the vanishing support of philanthropy, the medical profession as a whole will welcome the appropriation of funds to provide medical care for the medically needy, provided, first, that the public welfare administrative procedures are simplified and coordinated; and, second, that the provision of medical services is arranged by responsible local public officials in cooperation with the local medical profession and its allied groups.

"Your Committee feels that in each state a system should be developed to meet the recommendation of the National Health Conference in conformity with its suggestion that 'The role of the

federal government should be principally that of giving financial and technical aid to the states in their development of sound programs through procedures largely of their own choice.'

"4. Under Recommendation IV on a General Program of Medical Care: Your Committee approves the principle of hospital service insurance which is being widely adopted through the country. It is susceptible of great expansion along sound lines, and your Committee particularly recommends it as a community project. Experience in the operation of hospital service insurance or group hospitalization plans has demonstrated that these plans should confine themselves to provision of hospital facilities and should not include any type of medical care.

"Your Committee recognizes that health needs and means to supply such needs vary throughout the United States. Studies indicate that health needs are not identical in different localities but that they usually depend on local conditions and therefore are primarily local problems. Your Committee therefore encourages county or district medical societies, with the approval of the state medical society of which each is a component part, to develop appropriate means to meet their local requirements.

"In addition to insurance for hospitalization your Committee believes it is practicable to develop cash indemnity insurance plans to cover, in whole or in part, the costs of emergency or prolonged illness. Agencies set up to provide such insurance should comply with state statutes and regulations to insure their soundness and financial responsibility and have the approval of the county and state medical societies under which they operate.

"Your Committee is not willing to foster any system of compulsory health insurance. Your Committee is convinced that it is a complicated, bureaucratic system which has no place in a democratic state. It would undoubtedly set up a far-reaching tax system with great increase in the cost of government. That it would lend itself to political control and manipulation there is no doubt.

"Your Committee recognizes the soundness of the principles of workmen's compensation laws and recommends the expansion of such legislation to provide for meeting the costs of illness sustained as a result of employment in industry.

"Your Committee repeats its conviction that voluntary indemnity insurance may assist many income groups to finance their sickness costs without subsidy. Further development of group hospitalization and establishment of insurance plans on the indemnity principle to cover the cost of illness will assist in solution of these problems.

"5. Under Recommendation V on Insurance Against Loss of Wages During Sickness: In essence, the recommendation deals with compensation of loss of wages during sickness. Your Committee unreservedly endorses this principle, as it has distinct influence toward recovery and tends to reduce permanent disability. It is, however, in the interest of good medical care that the attending physician be relieved of the duty of certification of illness and of recovery, which func-

tion should be performed by a qualified medical employee of the disbursing agency.

"6. To facilitate the accomplishment of these objectives, your Committee recommends that a committee of not more than seven physicians representative of the practicing profession, under the chairmanship of Dr. Irvin Abell, President of the American Medical Association, be appointed by the Speaker to confer and consult with the proper federal representatives relative to the proposed National Health Program."

These pronouncements, designed to serve as guides for the charting of the future course of American Medicine in our changing social order, are purposely broad; dealing largely with principles, basic and ethical, which, if adhered to and incorporated in any contemplated scheme of expansion, should permit of the preservation of those intangible things in the delivery of medical care for which organized medicine has so long contended and which, in truth, mean far more to society than, at first blush, is realized. Furthermore, this document, while brief, is clear, concise, statesman-like and shorn of all verbose redundancy; it should be not only read but carefully studied by every physician who loves his profession. The one point on which there is total divergence of view between organized medicine and the Technical Committee's report is to be found in Section 4 of this document. It says in no unmistakable language:

"Your Committee is not willing to foster any system of compulsory health insurance. Your Committee is convinced that it is a complicated, bureaucratic system which has no place in a democratic state. It would undoubtedly set up a far-reaching tax system with great increase in the cost of government. That it would lend itself to political control and manipulation there is no doubt."

Finally, the House felt that, for the guidance of the profession at large throughout the country, there was real need for a definition of the phrase "medically needy" or "medically indigent." After much debate, this the House endeavored to do in the following language:

"A person is medically indigent when he is unable, in the place in which he resides, through his own resources, to provide himself and his dependents with proper medical, dental, nursing, hospital, pharmaceutical and therapeutic appliance care without depriving himself or his dependents of necessary food, clothing, shelter and similar necessities of life, as determined by the local authority charged with the duty of dispensing relief for the medically indigent."

DEPARTMENT OF PUBLIC HEALTH

BOARD OF ADMINISTRATION

J. N. Baker, M. D.
State Health Officer in Charge

HEALTH ACTIVITIES IN COFFEE COUNTY

Although a number of other diseases, mainly due to undernourishment and general poverty, have adversely affected the health of the Coffee County people whom the Farm Security Administration is attempting to improve, hookworm is described by Dr. W. A. Lewis, of the Coffee County Health Association, as the major health problem among that relatively small segment of the State's population.

Dr. Lewis' report reveals that 116 hookworm treatments were given Coffee County project clients and 334 such treatments were given to rehabilitation clients. Four-fifths of the treatments given to project clients were given to cases which Dr. Lewis described as border-line, while all the treatments given rehabilitation clients were actually needed.

This difference in the degree of hookworm infestation shown by these two types of clients is in keeping with Dr. Lewis' observations regarding their living and housing conditions.

"Project clients are living in good dwelling houses," he wrote. "The homes are clean and well kept. Each unit is furnished with a large barn, smoke house, poultry house, a pump with an adequate supply of water, and a sanitary privy. All buildings are well arranged with regard to drainage. Each unit has a large garden and ample chicken yard, well fenced. Large parts of these farms are fenced with wire and iron posts. Pastures are fenced off and the people are encouraged to keep milk and raise hogs. The entire environment of all the farms is inviting."

The report paints an entirely different kind of picture of conditions among the rehabilitation clients:

"Rehabilitation clients live in practically the same run-down class of tenant houses that the majority of other farm tenants of the surrounding country live in. Six clients living in the undeveloped area of the Coffee County project have sanitary privies. Seven rehabilitation clients have sanitary privies, making a total of 13 families living where

they have sanitary privies. These people use the old open well and draw water with a windlass and tackle. Sanitation in these homes is bad; frequently all the drainage from mule lots and open privies is toward the water supply. Very little screening is found in these homes."

Another major problem to which Dr. Lewis called attention is that of dental care. He described as "appalling" the sight of so many older people with bad teeth, pyorrhea and gingivitis. The teeth of the children whom he studied he describes as good. Living conditions are charged with responsibility for the serious dental deficiencies among the adults.

"Living conditions, therefore, can be put down as the major cause of such health conditions in Coffee County," Dr. Lewis wrote. "There is too much paper sack and tin can living by this class of people. They had fresh meat at hog-killing time. They have had a scanty supply of milk and eggs; too dry to make a garden, and the urgent need of the cotton fields held the lure for these folks. Consequently, they did not produce plenty of milk, eggs, chickens and fresh vegetables. The result of this old system of farming and living is bad teeth, impaired health and lowered vitality."

Dr. Lewis praised the Coffee County Health Department for the part it played in making the health survey and urged continued cooperation of private physicians in "helping to wipe the stigma of hookworm, anemia, malaria, and typhus off the list of diseases of Coffee County."

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

AUGUST 1938

Examinations for diphtheria bacilli and Vincent's	1,174
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	1,098
Typhoid cultures (blood, feces, urine)	1,688
Examinations for malaria	3,430
Examinations for intestinal parasites	2,751
Serologic tests for syphilis (blood and spinal fluid)	16,848
Darkfield examinations	24
Examinations for gonococci	1,814
Examinations for tubercle bacilli	1,534

Examinations for Negri bodies	
(microscopic)	108
Water examinations (bacteriologic)	1,081
Milk examinations	2,018
Pneumococcus typing	11
Miscellaneous	1,026
Total specimens	34,605

SPECIMEN CONTAINERS

The suggestion has been made by the State Health Officer that the facilities of the several County Health Departments might be economically utilized in the distribution of laboratory specimen containers to the practicing physicians of the state. In compliance with this suggestion the proposed plan was outlined to County Health Officers and an opportunity given them to express their reaction. The replies received indicated approval.

In line with the suggestion and its endorsement by the County Health Officers, the Bureau of Laboratories took immediate steps to abandon a previously outlined policy of specimen container distribution (see the March 1938 number of the Journal), and by October 1st was prepared to meet the demands of the physicians for specimen containers as expressed through the County Health Departments.

In detail the operation of the plan is as follows:

1. Laboratory specimen containers have been supplied each County Health Department in such numbers as considered necessary by the County Health Officer to adequately stock his county supply depot.

2. Requests for specimen containers from physicians in counties other than those in which a laboratory is located should be made of the local County Health Department. All requests received by the laboratories through the mail will in turn be referred to the proper County Health Department for filling. Requests from physicians in the county in which a laboratory is located will continue to be filled by the laboratory.

3. The County Health Department will forward by mail, or arrange for delivery by messenger, the containers requested.

4. Records will be kept by the County Health Department of the numbers and types of specimen containers delivered to the individual physicians in the county. From time to time a comparison will be made by the County Health Department of

the number of containers requisitioned and the number of specimens submitted to the laboratories, with a view to the elimination of waste of valuable laboratory property.

5. Requisitions for additional stocks of specimen containers will be made by the County Health Officer of the laboratory serving his county.

Henceforth, for the economic success of the above outlined plan, it will be necessary that the plan be rigidly adhered to by all parties.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

DIPHTHERIA AGAIN

In Alabama the seasonal curve of diphtheria begins to rise in August of each year and normally reaches its peak during October with steadily declining figures after that time. From 50 to 60% of the total cases reported during the year occur in the four months, September to December.

The records of the department this year show a very favorable incidence for the first seven months of the year, but August was an entirely different situation. Almost twice as many cases were reported in August of 1938 as in August of 1937, and the first two weeks of September continued the high incidence. From this it would appear that the decline in cases noted for the past several years would not continue, but, on the contrary, a definite upswing is in prospect for 1938.

Analysis of the cases that are occurring reveals that the vast majority of them are in children who have never been given any immunizing agent, so that they represent failures in the immunizing program rather than failure with the immunizing material. Alum-precipitated toxoid, as used in Alabama, is recognized as the best antigenic agent available today. Some failures to obtain complete protection are to be expected, but there is evidence that some protection is afforded in all instances. The mortality rate in children previously inoculated is only a fraction of that in uninoculated individuals so that the use of toxoid could be recommended on this basis alone.

Alum-precipitated toxoid should be given to every child in Alabama as soon after six months of age as possible, and if this were

done our morbidity and mortality records would soon show results. Health departments can and are doing much, but every physician needs to assume this responsibility for his own patients. Parents must be taught to seek protection for every child.

ROUTINE BLOOD EXAMINATION IN PRIVATE PRACTICE

Syphilis has been called "The Great Imitator." Certainly it can mimic any and all of the diseases found in human beings. Unless the "index of suspicion" is prominent in the physician's mind, the diagnosis of syphilis may be missed in many patients.

It has been estimated that one out of every five infected males and one out of every three infected females have never shown or had any early signs or symptoms of infection. Many patients have denied syphilis infection and they have been honest in their denial, but that does not necessarily mean they do not have syphilis. A study of 10,000 cases of late syphilis revealed that 30% of the males and 60% of the females could give no history of syphilitic infection. The infection was not symptomless in all cases. In many it was, but in others the early signs of infection were so mild and transient as to escape the notice of the patient; or, if noticed, no impression was made in his memory. Patients do have syphilis and yet are unaware of the infection. What is the answer? It is, of course, the routine blood analysis of every patient presenting himself for examination or treatment in the doctor's office, in the hospital or in a clinic. The physicians, hospitals and clinics that are practising this procedure find very few complaints since education has made the average patient syphilis conscious. Those few who might complain can usually be converted by the arguments of symptomless infection and innocent acquisition of infection. In the "ultra-prude" a subterfuge may be necessary to obtain a sample of blood but this is far better than letting an undiagnosed case of syphilis slip through our hands.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

LUNCH ROOM PROGRAM

Nutrition is considered by many to be a serious public health problem in Alabama.

One can go in any county of the state and there see the manifestations of inadequate diets. The most outstanding nutritional problems are pellagra and malnutrition. The first mentioned, pellagra, is the main specific dietary deficiency disease in Alabama. The death list of pellagrins runs into scores each year and the number of new cases reported annually is equally as high. These figures seem sufficiently indicative to show that pellagra is a well-defined problem. But perhaps, if we could make a list of those suffering from subclinical pellagra, our problem would look even more insurmountable. The second above mentioned nutritional condition, malnutrition, is a rather indefinite term, as it covers conditions resulting from numerous and varied nutritional inadequacies. However, we know that malnutrition or undernutrition does exist in varying degrees all over Alabama. Rickets and scurvy do not present themselves as conspicuous diseases in the state. However, had we reliable, specific means of detecting subclinical scurvy and rickets, there is a great probability that we could better see these two conditions as real public health problems.

What can we do to combat these drains on the physical stamina of our people resulting from dietary deficiencies? The most fundamental answer is—improve the diet. How can this be done? Some people are suffering from nutritional diseases because they actually don't have a sufficient amount of food to eat, others are virtually near the point of starvation because they have not made use of all their resources which could help them avail themselves with food; while still others are suffering from nutritional deficiencies because they are ignorant of the basic facts of nutrition which lead to proper food selection and good food habits. The predicament of the first above mentioned group undoubtedly has its roots in economic conditions. The two latter groups can be greatly benefited by a good, sound, practical educational program on the fundamentals of nutrition and allied subjects.

Our splendid educational set-up in the state is one logical place to concentrate our efforts in attempting to teach the subject of nutrition. The physician in private practice has a very important and responsible part in maintaining and promoting the health of the school child as well as the

health of the entire family from which the child comes. In the school the county health officer and nurse devote much time to the welfare of school children. There the parents and teachers are in close contact with each other and together are trying to work out ways and means of improving each child physically and mentally.

The school lunch is closely related to the health of the school child and in all instances it should be considered a health activity. The school lunch is one phase of school life that lends itself beautifully to nutritional teaching, not only to children in the classroom but also to parent-teacher groups and other civic organizations.

In an effort to see just what is being done in the schools of the state toward promoting good school lunches, and especially toward providing hot lunches, a questionnaire was sent to all county and city superintendents of education. From this we found that many school officials have already realized the importance of the school lunch in relation to the health of the child and are promoting better lunches, and hot lunches on cold days when they are most needed. Doubtless many other schools will this year do likewise.

Realizing that there is a great enthusiasm concerning school lunches, that the health of the school child is closely related to the food he eats and consequently to the school lunch, and also that the school lunch room is one of the best channels through which good, sound, practical nutrition teaching may be done, the nutrition consultant with the State Health Department has planned and selected materials which are now available on school lunches and nutrition of the school child, and also will this year devote much of her time toward lecture work on these subjects.

Every school lunch room in the state and every school where an attempt is being made toward providing better school lunches will be visited. Also, in counties or cities which are this year instituting lunch rooms or hot lunches, the nutritionist will, upon request, lend any assistance possible in the way of materials, advice and lectures. If the services of the nutritionist or materials upon school lunches are wanted, they may be secured by writing to the Bureau of Hygiene and Nursing, State Health Department.

M. W. B.

BUREAU OF SANITATION

G. H. Hazlehurst, C.E., M.C.E., Director

ALGAE CONTROL IN SWIMMING POOLS

Numerous articles have been written on the subject of algae control in swimming pools. These may be read in various technical magazines and swimming pool bulletins. Most of them deal with the cause, effects, and general treatment of that green slimy mass, or alga, which grows in outdoor swimming pools and which is thought to be responsible for about eighty per cent of the water trouble in such pools.

Algae are growths of plant nature, require carbon dioxide in order to manufacture their food, and are nourished by sunlight. Alga may appear as a free floating variety which gives a distinct green color to water or as the clinging type which grows on the sides and bottom of the pool. The effects may be bacterial development, disagreeable appearance in the pool, and unpleasant odors. In the general treatment or control of this growth, copper compounds, liquid chlorine, and hypochlorites are used.

Copper sulphate treatment is probably the most popular. However, this chemical is not a "cure-all" in so far as algae control is concerned. It is this phase of the subject which this article deals with chiefly. There is sometimes a bluish-gray or smoky color which appears shortly after copper sulphate is added to swimming pool water and increased dosages merely seem to make matters worse. This condition may be caused by the precipitation of copper carbonate when solutions of copper sulphate are added to water containing alkaline carbonates such as those of calcium or limestone. The more alkalinity present, the quicker precipitation is brought about. Unlike copper sulphate, copper carbonate is practically insoluble. It not only adds turbidity to the water, being grayish-green in color, but it is so completely insoluble that it has little or no effect on existing algae. Naturally the pool may be cleared up through sedimentation and filtration.

It appears then that copper sulphate is most effective in water of low alkalinity.

A recent Jantzen Swimming Association bulletin states, in part:

"A new method of controlling the growth of algae in swimming pool water has recently been developed. Without going into details, this meth-

od consists of feeding by a special feeder into the water a very soluble salt of copper processed so it is not precipitated by the alkaline carbonates in the water but remains in solution over a long period of time. With this process it is possible to feed this copper compound, which by the way is known as C-34, into the water until a copper content sufficient to inhibit the growth of algae has been built up."

Recently it has also been claimed that when chlorine and ammonia are used for pool sterilization, the addition of copper sulphate produces a complex cupric chloramine which is considerably more stable. Although not necessarily more algicidal the fact that it will remain in solution over a longer period is considered a definite advantage.

Frequent brushing of the pool sides and bottom is also effective and should not be overlooked in any algae control program.

T. H. M.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S.B. in P.H., Director

FINAL FIGURES FOR 1937 VITAL STATISTICS REPORT

The year 1937 was an unusually favorable one from a public health standpoint. Provisional data were published in the April issue of this Journal. Final figures have just become available and are recorded below.

Births:—The general trend in the birth rate has been downward for a decade. However, the rate (21.5 per 1,000 population) was slightly higher than that recorded in the preceding year (21.2). Compared with rates in other parts of the United States, our birth rate was high. The national average in 1936, the last year of record, was 16.7.

Stillbirths:—Stillbirths numbered 2,631, approximately 100 less than in 1936. The stillbirth rate (40.8 per 1,000 total births) was the lowest recorded in 15 years.

Deaths:—Deaths totalled 30,880; the death rate (10.7 per 1,000 population), although below that recorded in the preceding year, was higher than any recorded in the quinquennium (1931-1935).

Infant Mortality:—There were 3,847 deaths of infants under one year; the death rate (62.2 per 1,000 live births) was substantially less than the rate recorded the

year before and continues the general downward trend of mortality of this age group. The national average in 1936, the latest year of record, was 67.1.

Deaths from Childhood Diseases:—In general, the picture presented in 1937 from childhood diseases was favorable. A new low rate was recorded from diphtheria (3.4 per 100,000 population). That from scarlet fever (0.4) equalled the all-time low rate recorded in the preceding year; the figure (16.2) from diarrhea and enteritis, under two years, was the third lowest of record. The measles rate (0.2) equalled the lowest rate recorded since 1921. Seventeen deaths occurred from poliomyelitis, compared with 40 during the epidemic year of 1936. On the unfavorable side of the picture, the death rate (6.8) from whooping cough was higher than any recorded in the two preceding years.

Deaths From Other Important Causes:—All-time low rates were recorded from typhoid fever (1.8) and all puerperal causes (57.4). Rates from malaria (7.6) and tuberculosis (62.0) were the second lowest of record; that from pellagra (10.8) equalled the rate in 1936, which was the second lowest of record. The rate from nephritis (84.8) remained the same. In contrast, the rate from diseases of the heart (157.8) reached an all-time high; that from cerebral hemorrhage (74.6) was the second highest of record. The cancer death rate (58.5), although the third highest of record, was below the rates recorded in the two preceding years. The rate from pneumonia (89.2) was the second highest in nine years; influenza, (52.6) in eight years. Although the rate from diabetes (10.6) was lower than that of the preceding year, it was the fourth highest of record.

The School Health Program—Criticism is levelled at the practicability of any plan of informing the family physician of the school medical officer's findings, without resorting to the dubious method of sending it through the child or parent. Despite such criticism, I do not believe that we should ignore the desirability of establishing an ethical contact between the school health staff and the physician; such contact to be comparable to that associated with our other professional relations with our fellow practitioners.—*Phair, Am. J. Pub. Health, September 1938.*

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN
ALABAMA
1938

	July	Aug.	Estimated Expectancy Aug.
Typhoid	86	79	135
Typhus	51	38	35
Malaria	650	1017	765
Smallpox	3	0	1
Measles	181	53	33
Scarlet fever	45	40	64
Whooping cough	204	162	80
Diphtheria	49	93	109
Influenza	69	65	22
Mumps	24	28	24
Poliomyelitis	21	8	6
Encephalitis	2	4	1
Chickenpox	21	3	7
Tetanus	4	9	6
Tuberculosis	300	237	313
Pellagra	128	35	49
Meningitis	17	4	4
Pneumonia	124	96	54
Syphilis	2263	1847	181
Chancroid	9	6	8
Gonorrhea	334	274	172
Ophthalmia neonatorum	0	1	1
Trachoma	0	1	0
Tularemia	0	1	0
Undulant fever	8	14	5
Dengue	0	0	0
Amebic dysentery	1	0	0
Rabies—Human cases	0	0	0
Positive animal heads	41	40	

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

E. F. D.

Cause and Prevention of Disease. By William Harvey Perkins, M. D., Professor and Director, Department of Preventive Medicine, The Tulane University of Louisiana, New Orleans. 713 pages. Lea and Febiger, Publishers, Philadelphia, 1938. Cloth. \$7.50.

This book is an important contribution to the practice of preventive medicine. The author holds that since every disease must result from an ascertainable cause, the natural laws under which it operates can also be determined. In this book the author has systematized what is known of the causes and origins of disease. All types of diseases are covered, most of them in a very scholarly and accurate fashion. However a number of the various categories are touched on very briefly. One may criticize the book by saying that an attempt is made to cover too much ground in a single volume. This is undoubtedly true but the author has handled this large body of material extremely well. It will prove a valuable ready reference on any phase of preventive medicine.

W. F. Q.

History of Women in Medicine. (From the Darkest Times to the Beginning of the 19th Century.) By Kate C. Mead, M. D. Haddain Press, Middletown, Ohio. Price \$6.00.

History of Women in Medicine is not a mere encyclopedia of facts though they are there in astounding numbers. They have been presented in a fluent and narrative style which makes this history a book of entertainment as well as one of knowledge.

Even with a casual perusal of the book one is impressed with the task which Dr. Mead started during her early medical career. From 1890 to 1925 she accumulated material while she carried on an active practice. She devoted two years to research on the subject, perusing original documents in the British Museum. Material from manuscripts of other libraries was added to the vast accumulation of the years. This story of women's share in the medical care of the race has its beginnings in the days of Babylonia. To many it may come as a surprise to know that woman, mother of the race, also was the mother of primitive medicine. She, it was, who stayed at home and cared for the young and old while the men were away hunting and fighting. In the fifth century at Sais, on the River Nile, there was a woman's college with women professors teaching students from Egypt, Greece, and other countries.

It has been said that there is nothing new under the sun and with our modern inventions some of us may have doubted this statement. With the problem of organized medicine and state medicine so prominent now many are doubtless thinking that state medicine is a new development but not so, according to the authorities cited by Dr. Mead, for before the days of the Christian

Book Abstracts and Reviews

Female Sex Perversion. By Maurice Chideckel, M. D. The Eugenics Publishing Company, New York, N. Y. Cloth. 324 pages. \$6.00.

This book was written for the lay public to show how sex perversions are evolved, the genesis of each, how they are being practiced and the description of the perversion and the pervert. There is a chapter on the history of female sex perversion during the ages. The subject matter in each chapter is illustrated liberally with case histories, many of them taken from the author's practice. Aberration is not discussed, but Dr. Chideckel makes it clear that cures are possible in many instances when the patient consults a trained physician. He expresses the aim of the book in the concluding paragraph.

"If this book will convince female sexual erotics that they can be treated and cured of their anomalous state; if it will demonstrate to parents the crimes they are committing against their little daughters by displaying more affection towards another child; if by perusing this book father and mother will understand how to act in sexual matters in the presence of their little girls; if the psychology of perversion which we have herein attempted to clarify will be fully understood by the intelligent reader, and the magnitude of its importance realized, the author and the publishers have fully achieved their goal."

Dr. Chideckel has written in his usual informal style, often using non-scientific terms for the sake of the lay reader. It is to be hoped that those who peruse the book will have a more sympathetic understanding of the problems of fe-

era the kings of China and India hired women physicians to care for the poor of the court.

There are many interesting and rare engravings reproduced in this history showing the medical methods of the various periods. Apparently our present day advertisers have not produced a new idea in their picture of before and after treatment, for one of the most ancient carvings of about 3000 B. C. shows a woman physician with a poliomyelitis patient offering gifts to the Goddess Isis. An inset shows the patient with straightened limbs and discarded staff as proof of effectiveness of the treatment.

The author has given the political and social background of each period. The water supply and sewage conditions of Rome in the second century and the general conditions of the Dark Ages are depicted in a way to reveal the situations in which the physicians found themselves and its influence on their work.

Dr. Mead produces documentary evidence to show that some of the physicians of the Dark Ages thought to be men were in reality women. During this era and in the years following it, the medical manuscripts were laboriously copied by scribes. The author gives evidence that, in the copying, the feminine ending of the names was often uselessly omitted or changed. Evidence is presented to refute the charge that Torlula, a woman physician whose works and writings of the eleventh century are still preserved, was a man.

This piecing together of ancient records, to give a story of the progress and position of woman in medical work, has been a most arduous task, but the result, now presented in Volume I of the History of Women in Medicine, is of such value that no one interested in the beginnings of medical history or in women's work in the world can afford to miss reading it. The reviewer would not recommend this history as "light" reading but it is a book one may read and put aside, to return to with enthusiasm even when not searching for mere facts. The convenient cross indexing makes this volume especially useful for reference and it merits a place on the shelves of every public library.

Dr. Mead is to be congratulated on her present achievement which, we understand, is to be followed by a second volume continuing the story of Women in Medicine from the beginning of the nineteenth century to date. This should prove most interesting for the early eighteen hundreds have been considered the "pioneer" days of women in medicine. According to the present volume it will be necessary to qualify this and speak of the time as the "pioneer" days of women in the era of scientific investigation and experiment or as the return of women to medicine.

E. F. D.

Essentials of Obstetrical and Gynecological Pathology. By Marion Douglass, M. D., F. A. C. S., Assistant Professor of Gynecology, Western Reserve University; and Robert L. Faulkner, M. D., Senior Clinical Instructor in Gynecology, Western Reserve University, St. Louis, Mo.: The C. V. Mosby Company, 1938. Price \$4.75.

The Essentials of Obstetrical and Gynecological Pathology is to be used as a manual for the stu-

dent or busy clinician who wishes to have at hand such a book for ready reference. There are one hundred and forty-eight illustrations, most of them actual photographs of the normal histology of the various organs and micro-photographs of biopsy sections. A description of the normal histologic structure is given at the beginning of each division, followed by a short discussion of the common and important pathologic conditions, and a brief statement of the treatment. The histologic structure of pathologic conditions are described and illustrated by micro-photographs. Some of the rarer conditions and tumors have been omitted.

The chapters in the contents are outlined with page number after each division for easy reference. There is also a complete index. This manual should prove of value to the general practitioner who is interested in the diseases of women.

E. F. D.

Urban Sociology. By E. E. Muntz, Ph. D. New York University. The Macmillan Company, New York, 1938. Cloth. Price, \$3.75.

In this volume entitled Urban Sociology the author has compiled a vast amount of information concerning the needs of modern cities, comprising, in part, some of the major adjustments to urban life, such as the realignment of rights, duties and personal freedom in the city environment, and the communal responsibility for housing, health, education and recreation. The book, consisting of seven hundred and forty-two pages, takes up in most interesting detail the origin of the urban community of early days and describes its evolution down to the present day; the urban housing problem, the tenancy problem, the tenement house problem, the effects on the morbidity and mortality—all these, to mention only a few of the topics included in the first part of the book.

Of particular interest to health workers the author explains the variation in urban and rural death rates, the effects of foreign immigration as a factor in bolstering an otherwise declining birth rate and the effects of black and white population in different parts of the country as a result of Negro migration from the South.

The chapters devoted to public health and safety describe the work of all the worthwhile private and public organizations, the various surveys conducted in different parts of the country. Of interest to the profession are the chapters on the cost of health, describing the fee splitting abuse, group practice and hospital insurance.

In spite of the pleasure which the reviewer experienced in reading this volume, it must be definitely understood that it is not written for the medical profession since only a fraction of the book is devoted to public health and a consideration of the practice of medicine.

It should be read, however, and will prove of inestimable value to all health workers and individuals interested in the welfare and progress of their community. With this idea in mind it might be recommended that the book be on the shelves of all municipal libraries and read by all bureau and division heads associated with municipal government.

J. J. R.

Pathological Technique: By Frank Burr Mallory, A. M., M. D., S. D. Consulting Pathologist to the Boston City Hospital, Boston, Mass. 434 pages with 14 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$4.50 net.

Doctor Mallory has written a book which, like "The Microtomists' Vade Mecum," consists of selection of accepted formulae for the preparation of microscopic sections of various tissues.

Part I deals with laboratory equipment and methods of fixation, decalcification, embedding, staining and mounting.

Part II describes staining methods for demonstration of special cell structures, those applicable to individual organs and those best suited to make visible the various bacteria, protozoa and other infectious agents.

Part III describes several routine techniques for the performance of postmortem examinations and outlines the methods for preservation of gross specimens.

Most of the hospitals in this state are deficient in their postmortem work. Mallory's book can guide them in establishing proper procedures. It should also stimulate interest in the subject.

C. K. W.

The Principles and Practice of Obstetrics: By Joseph B. DeLee, A. M., M. D. Professor of Obstetrics and Gynecology, Emeritus, University of Chicago; Consultant in Obstetrics, Chicago Lying-In Hospital and Dispensary, Consultant in Obstetrics, Chicago Maternity Center. Seventh edition, entirely reset. 1,211 pages with 1,277 illustrations on 985 figures, 271 of them in colors. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$12.00 net.

A thorough revision and addition of new material brings this splendid book into step with modern progress and thought in obstetrics. Doctor DeLee's text not only gives the anatomy, physiology and pathology of obstetrics but discusses fully the management of obstetric cases from conception through to delivery and after-care of mother and child. Doctor DeLee, in his simple, inimitable style, discusses practically every emergency that might befall the practitioner at the home or hospital. Both surgical and medical treatments are incorporated in this one volume. Methods of procedure are authoritative, conservative and based upon years of personal experience combined with the opinions of other obstetric authorities. For students, the basic important principles are brought out clearly yet briefly; for the practitioner, the details of treatment are placed in smaller type.

The recent publicity regarding obstetric analgesia and anesthesia has necessitated a complete revision and more complete discussion of this subject. The barbiturates, such as amytal, pentobarbital, etc., have acquired an enormous vogue. The most popular of these, sodium pentobarbital, with its untoward effects of restlessness, excitement and delirium, is fully discussed as to indications, dosage and mode of administration. This drug is not recommended for home obstetrics.

New ideas regarding the physiology of menstruation and nidation of the ovum are propounded. The subject of the blood chemistry of the

toxemias of pregnancy is revised in accordance with recent experimental findings.

The role of sulfanilamide and prontosil in puerperal infections, erysipelas and pyelo-ureteritis is discussed fully. Their dangers, precautions in use, changes in the blood picture and symptoms of poisoning are discussed.

Vitamins and endocrines have had a place in the limelight recently. Volumes of literature have been perused but the author has described only proved and useful items.

Scalp traction forceps (Willett forceps) especially designed for use in placenta previa are advocated. This forcep is not applicable in total placenta previa or if a large part of the cervix is covered by thick placenta and naturally only when delivery from below is possible.

There are more illustrations and figures, many of which are in color, to make this book even more desirable than in the past. It is to be highly recommended, not only to the student and practitioner but even to the specialist. A copy of this text should be in every modern doctor's library.

B. B. B.

Laboratory Manual of Hematologic Technic: By Regena Cook Beck, M. A., M. D. Formerly Instructor in Pathology and Bacteriology at George Washington University Medical School; Head of the Department of Bacteriology, William and Mary College Extension; Pathologist to Stuart Circle Hospital and Director of the Stuart Circle Hospital School of Medical Technology, Richmond, Virginia. With a Foreword by Frank W. Konseimann, M. D., Professor of Clinical Pathology, Temple University, Philadelphia. 389 pages with 79 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$4.00 net.

Doctor Beck must be an excellent teacher if one may judge by the thoroughness with which she presents her material in her "Laboratory Manual of Hematologic Technic." Her avowed purpose in writing the manual is to describe correct and accurate technic for a few selected methods of performing various clinical tests relating to blood. She has, therefore, limited the number of methods to a few that have, in her experience, proved most satisfactory for clinical use. Since interpretation is dependent upon the accuracy of performing tests, she has stressed the need for adhering strictly to detail.

Following the description of each clinical procedure, the author explains the significance of abnormal findings, listing the disease conditions which may account for each abnormal result. For the practicing physician this is a very valuable feature. There is also a chapter dealing with the effects on the blood of various chemicals and of roentgen, radium, and ultra-violet rays. Since the book is intended also for students, the author has concluded each chapter with a group of definitions of new terms and a set of questions to assist the student in reviewing and memorizing the text.

The reviewer wants this book on the shelf of his laboratory and hopes his technician will use it often. Doctors having a laboratory of their own will undoubtedly want a copy.

C. K. W.

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THE ANEMIAS*

THEIR DIAGNOSIS AND TREATMENT

WITH REPORT OF CASES

By

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The study of an anemic patient offers as many thrills as a good detective story. To recognize the character of the villain requires a careful history, a thorough physical examination, expert laboratory examinations and often a therapeutic test. If the patient has previously been treated by "shot-gun" methods, such as blood transfusions or a mixture of iron and liver, the proper interpretation of laboratory findings and therapeutic tests may become more difficult.

The blood vessels, the bone marrow, the nature of the erythrocytes themselves, the gastro-intestinal tract—particularly the pyloric end of the stomach—the liver, the spleen, the diet and general health of the individual are all concerned in keeping a proper balance between blood regeneration and blood destruction.

The effect of blood loss from a ruptured vessel will vary with the rapidity and the amount of hemorrhage. A sudden loss exceeding one third of the blood volume results in shock and often death. If hemorrhage is not rapid enough to cause a depletion of blood volume, spontaneous recovery is prompt due to an increased activity of a well functioning bone marrow. Blood transfusions are often a life saving measure but only indicated for replacing the blood volume. Erythrocyte counts and hemoglobin determinations are of no value in estimating the amount of blood lost immediately following hemorrhage since sufficient time has not elapsed for replacement of blood volume by dilution.

Chronic blood loss produces a hypochromic anemia. The red cells are diminished in numbers and characteristically contain a subnormal amount of hemoglobin, giving a color index below one. The stained blood smear will present various types of abnormal red cells depending upon the amount and duration of blood loss and its etiology. In addition to the actual loss, the blood picture may be affected by an exhausted bone marrow and lack of available iron. Additional hypofunction of the bone marrow may result from malnutrition, fever and toxemia, which are a part of the disease causing the hemorrhage. All efforts should be directed toward discovering and treating the underlying cause. Large doses of iron are indicated for the anemia. Needless blood transfusions and expensive liver therapy are frequently given. Blood transfusions do have a place in preparing patients for operation to stop the bleeding or to combat toxemia. Bleeding hemorrhoids are a frequently unrecognized cause of hypochromic anemia.

In the adult, erythrocytic regeneration occurs only in the bone marrow. It, however, is dependent on the gastro-intestinal tract to supply iron, vitamins and other essentials derived from food; and on the stomach and the liver to supply a certain unknown hematopoietic principle which Castle has cleverly shown to consist of an intrinsic and an extrinsic "gastric factor." The marrow may fail to function normally when supplied by all these because of a dysfunction within itself. Common causes of bone marrow dysfunction are toxic actions of benzol, arsenamine, gold compounds, infections, injury by x-ray or radium, leukemias, malignancies and osteosclerosis. Three other types of anemia occur for which the bone marrow is primarily blamed but the etiology is unknown; namely, aplastic anemia, congenital and erythroblastic anemias of childhood and Banti's disease.

Of the various dietary factors necessary

*Read before a meeting of the Northwestern Division of the Association, Winfield, September 15, 1938.

for blood formation iron is the most commonly deficient. Whether iron is used solely for building up the hemoglobin molecule or in addition actually stimulates erythropoiesis is an unsettled question. Iron deficiency may develop from insufficient amounts in the diet but more commonly from faulty absorption, particularly if gastric hypoacidity exists, or from faulty utilization because of avitaminosis or other deficiencies. Depletion of stored iron may result from chronic blood loss. The circulating blood is characterized by a reduction in the number of red cells containing a markedly reduced amount of hemoglobin. The type of iron administered is of little importance as long as the dose is adequate. Hydrochloric acid in the stomach converts ferric iron into ferrous iron. In achlorhydria it is particularly desirable to administer the more soluble ferrous salts. My favorite at all times is ferrous sulphate. It is inexpensive, the adequate dose small and rarely produces gastrointestinal irritation.

Normally there is a balance between blood destruction and formation. When the red cells are destroyed, hemoglobin pigments are released in the plasma, excreted in a changed form by the liver into the intestinal tract from which most of the iron is reabsorbed and finally utilized by the bone marrow in making new cells. Anemia from rapid blood destruction is accompanied by jaundice due to the inability of the liver to excrete hemoglobin pigment as fast as it is released in the plasma.

Rapid blood destruction may be caused by infectious diseases (malaria), by destructive chemicals (lead), or by bone marrow dysfunction of unknown etiology whereby abnormally shaped red cells with increased fragility are formed; e.g., sphericity seen in chronic familial hemolytic jaundice, and sickling seen in sickle-cell anemia of Negroes.

It is not within the scope of this paper to review the work of Castle and Locke, and of Sharp, Sturgis and Isaacs, whose work during the past two years has given us our present concept of an unknown hematopoietic principle necessary for maturation of the erythrocytes. This substance is produced by a combination of an intrinsic gastric factor, which is secreted by the pyloric end of the stomach, with an extrinsic factor derived from food and is stored in the liver, kidneys,

brain and placenta. Pernicious anemia, certain anemias of pregnancy, macrocytic anemia of sprue and pellagra and other macrocytic anemias result from deficient production, absorption, or storage of this substance. When there is a deficiency of the hematopoietic principle, the circulating blood contains a reduced number of red cells, which are larger than normal and contain an increased amount of hemoglobin. Reticulocytes are reduced in number, and megaloblasts, nucleated red cells and marked variation in size and shape of the red cells are seen. The substance may be supplied in the form of raw stomach, raw liver, dried stomach or liver or a combination of the two (Extralin) or parenteral liver extract. The latter is relatively inexpensive and probably the most practical at the present time. The administration of adequate dosage is of more importance than the manner of administration.

CASE REPORTS

Case 1. (*Hypochromic Anemia*): A white woman, aged 35 years, was admitted to the Norwood Clinic complaining of dyspnea, palpitation and weakness of two years' duration. These symptoms had been marked for two months. She had had clinical pellagra two years previously. Occasional bleeding from hemorrhoids had occurred for four years. This had been moderately severe for one week four months prior to admission but absent since. Uterine bleeding had occurred for three weeks four months previously. The last two menses were scant.

On physical examination the patient was found to be moderately undernourished and pale, with a soft systolic murmur at the apex of the heart, small external and internal hemorrhoids and moderate retroversion of the uterus. Other physical findings were not remarkable. Urinalysis and Wassermann and Kahn reactions were negative. The hemoglobin was 30%, erythrocyte count 3,040,000, leucocyte count 2,300, with 34% lymphocytes, 2% large mononuclears, 62% neutrophils and 2% eosinophils. Gastric analysis showed an absence of free hydrochloric acid after histamin stimulation. Roentgenologic examination of the stomach and duodenum and proctoscopic examination revealed normal findings except for the small hemorrhoids.

A liberal diet, dilute hydrochloric acid with meals and ferrous sulphate were prescribed. She returned after thirty-seven days and was greatly improved symptomatically. The hemoglobin estimation was 60%, erythrocyte count 3,500,000 and the leucocyte count 7,400.

Case 2. (*Aplastic Anemia*): A white man, aged thirty-one years, a laborer, was admitted to the Norwood Hospital complaining of profound weakness, roaring in the head, dyspnea and palpitation

on the slightest exertion, of one month's duration. The family and past histories were unimportant. The diet had been deficient in that he drank no milk, ate no fresh meat and only one egg daily.

Except for profound weakness and apparent anemia, nothing remarkable was found on physical examination. The liver, spleen and lymph nodes were not palpably enlarged. Urinalysis and Wassermann and Kahn reactions were negative. The hemoglobin estimation was 35%, erythrocyte count 1,400,000, with 0.2% reticulocytes, leucocyte count 1,200, with 51% lymphocytes and 49% neutrophils and platelet count 150,000. Van den Bergh reactions, direct and indirect, were negative. Gastric analysis showed a total acidity of 82 and free hydrochloric acid 62.

After he had taken ferrous sulphate, brewers' yeast and a high vitamine, high protein diet for twelve days the hemoglobin estimation was 33% and erythrocyte count 1,700,000. Large doses of parenteral liver extract were then given daily for seventeen days with no change in the reticulocyte counts, hemoglobin estimation or erythrocyte count. After four blood transfusions the hemoglobin estimation was 45% and erythrocyte count 2,000,000. He left the hospital thirty-five days after admission. He returned once or twice weekly to the outpatient department for blood transfusions. He was readmitted to the hospital after two months with a history of having received ten blood transfusions within the previous month. There had been considerable bleeding from the gums for several weeks. A few hours before admission severe abdominal cramping, nausea and vomiting developed. Marked generalized abdominal tenderness and rigidity were found on examination. He died four days later. Autopsy revealed extensive submucosal hemorrhages in the colon and aplasia of the bone marrow, but no other remarkable gross or microscopic findings.

Case 3. (Hemolytic Jaundice): A white man, aged thirty years, a coal miner, was admitted to the Norwood Hospital complaining of profound weakness, nausea and cramping pains in the left upper abdomen of three days' duration. His father was alive and well and mother had died of cerebral hemorrhage. Three sisters were alive and well and one had died of appendicitis.

The patient had been deeply jaundiced at birth, which did not clear up until four months of age. Enlargement of the spleen had been noticed since the age of eleven years. When seven years of age he began having recurrent attacks of severe epigastric pain with fever, profound weakness, jaundice and vomiting. Three or four months were usually required to recover from these attacks. During the eleven years previous to admission there had been five such attacks, the last one being four years previously. At no time in his life had he felt quite up to par, but had been able to earn a living doing manual labor. He was as well as usual during the morning three days before admission. At 4:00 P. M. he had a sudden severe pain in the left upper abdomen and left lower chest. The pain passed off after about thirty minutes but continued to recur in paroxysms. The

following day there was extreme weakness, nausea, vomiting and dyspnea. These symptoms persisted until admission to the hospital.

He appeared quite weak, anemic and jaundiced, grade 3. The only other remarkable physical finding was a tender spleen, which could be felt eight centimeters below the left costal margin. Urinalysis and Wassermann and Kahn reactions were negative. The hemoglobin estimation was 30%, erythrocyte count 1,300,000, with 10% reticulocytes, leucocyte count 2,100, with 50% lymphocytes and 50% neutrophils, coagulation time 4 minutes, bleeding time 3 minutes, platelet count 240,000, icterus index 7.5 and van den Bergh positive indirect reaction. Fragility test of patient's blood showed hemolysis beginning at 44 and complete at 36; of normal individual beginning at 42 and complete at 36.

He was treated with complete rest in bed, repeated blood transfusions, iron, yeast and a high vitamin diet. Twenty-five days after admission the hemoglobin estimation was 60% and erythrocyte count 3,400,000. At this time splenectomy was done. The spleen weighed 1,125 grams. The postoperative convalescence was complicated by massive collapse of the right lung. Twelve days after splenectomy the hemoglobin estimation was 89% and erythrocyte count 4,000,000. Five months after splenectomy he returned for repair of a postoperative ventral hernia. At this time the hemoglobin was 95% and erythrocyte count 4,500,000. He was returned to his former work as coal miner and is enjoying what he considers perfect health for the first time in his entire life.

Case 4. (Sickle-Cell Anemia): A Negro man, aged thirty-eight years, was admitted to the Norwood Hospital complaining of recurring attacks of abdominal pain of nine years' duration. Prior to the onset of these attacks he had been strong and robust. The attacks would start with pain in the umbilical region radiating to the right upper abdomen. The pain usually lasted three or four days, had recurred every two or three weeks for five months, and from one to four times annually for nine years. The diet had been deficient because of finances but no gastro-intestinal symptoms had been experienced between attacks. The only remarkable physical findings were under-nutrition and oral sepsis. There was no jaundice, and the liver, spleen and lymph nodes were not palpably enlarged. Urinalysis, blood Wassermann and Kahn reactions, and spinal fluid Wassermann and Kahn reactions were negative. The hemoglobin estimation was 50%, erythrocyte count 3,390,000, leucocyte count 6,000, with 24% lymphocytes and 76% neutrophils. There was marked poikilocytosis and polychromatophilia. Blood studies for sickling were positive. Gastric analysis showed free hydrochloric acid of 28 and total acidity of 46. Examination of feces for occult blood was negative. X-ray examination of the gastro-intestinal tract revealed no abnormalities.

He was given intensive parenteral liver extract therapy, high vitamine diet and ferrous sulphate. After fourteen days the hemoglobin estimation was 48%, and erythrocyte count 3,560,000. He

died a few months later in another hospital, the diagnosis being sickle-cell anemia.

Case 5. (*Pernicious Anemia*): A white man, sixty-four years of age, was admitted to the Norwood Hospital complaining of profound weakness, dyspnea and palpitation. He had been unable to do manual labor for three years and unable to walk for two months because of weakness.

The abnormal physical findings were marked weakness, paleness, systolic murmur (best heard over the apex of the heart) and right hydrocele. The liver, spleen and lymph nodes were not palpable and the neurologic findings were normal. Urinalysis and Wassermann and Kahn reactions were negative. The hemoglobin estimation was 15%, erythrocyte count 1,000,000, with 0.5% reticulocytes and leucocyte count 2,800, with 58% lymphocytes and 49% neutrophils. Gastric analysis showed an absence of free hydrochloric acid. One cubic centimeter of concentrated liver extract (Lederle) was given intramuscularly daily. On the fourth day the reticulocyte count was 10% and on the sixth day 50%. After eleven days of liver therapy the hemoglobin was 69% and erythrocytes 3,200,000. At this time he was permitted to return home with instructions to continue liver therapy. He has taken one-fourth pound of raw liver daily for the past three years and enjoys good health.

DISCUSSION

Five cases of anemia resulting from different pathologic processes are presented for the purpose of emphasis.

The hypochromic anemia in Case 1 appeared to be the result of several factors. Food and vitamin deficiencies had resulted in clinical pellagra ten years previously and probably were a factor in the production of the anemia. Chronic hemorrhage had existed for four years and had been severe four months previously. The achlorhydria had probably interfered with the absorption of iron from the gastro-intestinal tract. After iron therapy, the hemoglobin estimation increased more rapidly than the erythrocyte. This is the usual observation in hypochromic anemia.

A probable diagnosis of aplastic anemia in Case 2 could be made after a careful history, thorough physical examination and exhaustive laboratory studies. This was done largely by the process of elimination. After no response to iron or liver therapy the diagnosis seemed proved. The development of hemorrhagic diathesis is not an unusual phenomenon. The number of blood platelets is usually reduced along with the other formed elements. The bone marrow in this instance showed aplasia, but this is not always true of aplastic anemia. The bone mar-

row changes are variable and may appear normal, hyperplastic or aplastic.

Case 3 is characteristic of hemolytic jaundice in every respect, except that no familial history could be obtained. The fact that the patient had consulted numerous physicians and had had three previous admissions to hospitals during crises emphasizes the unfamiliarity of physicians with this rare blood dyscrasia. No other disease responds so dramatically and consistently to splenectomy.

Sickle-cell anemia is essentially a disease of Negroes, though a few authentic cases have been reported in other races. Sickle-cell anemia and hemolytic jaundice have many common characteristics. Both are a result of an hereditary dysfunction of the bone marrow whereby morphologically abnormal erythrocytes are produced. These abnormal cells have an increased susceptibility to the normal blood destructive processes. Both are characterized by crises and periods of remission. The sudden attacks of abdominal pain complained of by Case 4 are a common symptom of sickle-cell anemia. This results from the congestion of the reticular spaces of the spleen with the abnormal cells. Thrombosis and infarction in the spleen are common. The smaller blood vessels of the lungs and brain may also become occluded. The course of sickle-cell anemia is not affected by splenectomy or any other known specific measures.

Case 5 is presented as a typical case of pernicious anemia without neurologic changes. At the present time one rarely sees so severe a case, which has received no anti-anemic treatment. Although this patient had an erythrocyte count of only 1,000,000 we did not find it necessary to give a blood transfusion. Emergency blood transfusions may occasionally become necessary as an immediate life saving measure when anemia is extreme but otherwise have no place in the treatment of pernicious anemia. They are useless, expensive and tend to obscure the diagnosis.

SUMMARY

A brief general discussion of the anemias is given with no attempt to cover the entire subject. Five cases of anemia resulting from different pathologic processes are presented. Emphasis is placed on the importance of directing the therapy as an aid to establishing a correct diagnosis.

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CHRONIC VARICOSE ULCERS*

TREATMENT IN GENERAL PRACTICE

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Varicose ulcer is probably one of the oldest, as well as one of the most disabling, affections known to man. There have been as many remedies advocated for its treatment as there have been writers on the subject, and innumerable quacks and charlatans have waxed fat with "sure cures."

Ulcer formation may follow any condition which interferes with the return flow of blood, thus producing a venous stasis with dilatation of the veins and loss of valve function. This may be due to varices in the veins or to back pressure from tumors, pregnancy or phlebitis. The back pressure on the capillaries results in edema of the tissues, with interference with normal cell metabolism, impairment of nutrition, retention of waste products and the development of periphlebitis or cellulitis.

The actual ulcer may follow the slightest trauma or infection; or may occur spontaneously as a localized gangrene of the waterlogged skin, with separation and sloughing of the tissues. The process is progressive with continued necrosis and sloughing. The ulcers are irregular in shape and vary in size from a pinhead to 8 or 10 cm. in the long diameter. They are usually shallow but sometimes the deeper structures are involved. The base is covered with necrotic tissue and there is a profuse foul smelling, seropurulent secretion. The ulcer is surrounded by an area of induration and pigmentation which may extend completely around the limb and 10 or 12 cm. above the ulcer.

Their differentiation from syphilitic ulcers is usually not difficult, but blood tests should be made in all cases since a four-plus is not an infrequent complication and prompt antiluetic treatment will speed the healing process in an otherwise resistant case.

In treating these ulcers the most logical plan would be to attempt to correct the underlying pathologic factors which caused them to develop. To put the patient to bed with the limb elevated, by lessening the edema and congestion and eliminating the

waste products, will heal many of these ulcers. In the small income group this is an expensive and impractical method. Ambulatory methods of treatment have been by the use of Unna's boot, elastic bandages, rubber sponge pressure or similar support to the weakened veins, with local use of various antiseptic and tissue stimulating drugs and, in recent years, the injection of a sclerosing solution into the veins above the ulcer. Drugs used in the treatment of the ulcers have ranged from caustics, such as silver nitrate in strengths varying from 1% to 10%, to mildly antiseptic ointments. A combination of balsam Peru and castor oil has been an old favorite. The mistake of too frequent dressing has been almost universal.

One of the most forward steps in the treatment of chronic ulcer has been the recognition of the fact that the discharge from the ulcer, while of an offensive odor, is not only harmless but actually beneficial as a protective covering and an effort on the part of nature to promote healing. The use of the marine sponge over the ulcer and held in place by wide adhesive strips encircling the leg, changed at infrequent intervals when esthetics demanded, with proper support to the leg to improve the circulation, resulted in materially shortening the period of healing by not destroying the young epithelial cells, as compared to the use of silver nitrate or other caustics and antiseptics and frequent dressings, which actually destroyed many of these cells and prolonged the healing process.

Recently, the use of acetyl-beta-methycholine chloride by iontophoresis for its local vasodilating effect was reported by Saylor, Kovacs, Duryee and Wright (J. A. M. A., July 11, 1936), based on the experiments of Dianow (J. de med de Paris 50: 619, 1930) who injected acetylcholine (0.1 Gm.) daily, subcutaneously, in 30 cases. Saylor, Kovacs, Duryee and Wright used a 0.5 per cent solution by iontophoresis on 26 unselected, ambulatory cases with 3 failures. The treatment was accompanied with more or less severe general and local reactions of such nature as to demand close supervision of the treatment.

The following method of treatment has been used in my practice for the past two years with success. It is based on experiments in the use of vitamin A in cod-liver oil and carotene in the treatment of ulcers,

*Read before a meeting of the Southeastern Division of the Association, Dothan, August 11, 1938.

burns, etc. The treatment is very simple and is inexpensive. The patient is advised to keep the leg elevated as much as possible during the early part of the treatment but is not confined to bed nor prevented from attending to necessary duties unless there is an excessive amount of edema and stagnation, in which case he is asked to stay off of the leg two or three days, keep it elevated and use a wet dressing of 1:2000 hexylresorcinol solution.

A pad of gauze is covered with sufficient cod-liver oil ointment to cover the ulcer. The gauze should extend 3 or 4 cm. beyond the margin of the ulcer. The ointment I have been using contains 60% cod-liver oil with benzyl alcohol, chlorbutanol, benzocaine, benzyl benzoate and sodium borate. The dressing is held in place by overlapping strips of self-adhesive gauze bandage which is porous and does not macerate the non-ulcerated skin. The bandage is not continuous, but is applied one strip at the time to insure a perfectly smooth and even dressing with each layer overlapping the previous one. The bandage adheres to itself and does not slip. If the secretion has been very copious, a double thickness of gauze is used for the first treatment or two, and a strip of adhesive plaster 4 inches wide and about 4 inches long is placed over the bandage after it is in place. This is simply to protect against the secretion and is not required after one or two treatments.

An ordinary Ace elastic bandage is then used on the leg and the patient is taught how to apply this to insure a snug fit. He is instructed to remove it at night and reapply the next morning but not to disturb the dressing. This is left in place for 4 to 6 days, when the patient is instructed to return for a redressing of the leg, since the bandage will have become slack, in all probability. Subsequent dressings are usually 5 to 7 days and are necessitated only because of the odor. The gauze does not adhere to the ulcer and there is no pain after the first treatment. The discharge lessens with each treatment and small islets of epithelium are noticed scattered throughout the ulcer.

In changing the dressings scrupulous care is taken not to touch the ulcer itself and no effort is made to cleanse it. The surrounding skin is carefully cleansed with alcohol and dried and a fresh dressing applied.

After the first dressing has been applied,

any large varices leading directly into the area are injected; others are injected during subsequent treatments, if the patient will consent. Several have refused injections and their ulcers healed but they were advised, of course, of the likelihood of recurrence or subsequent ulcer formation. One of these patients who refused has had another ulcer on the opposite side of the leg which has been treated just as the other and which healed.

After healing, the patient is advised to wear the elastic bandage for two or three months as a protection. The average length of time required for healing has been from 4 to 7 weeks in fairly large ulcers of long standing. Small ulcers heal much sooner. Only one case has required longer than 7 weeks and this was in a very obese patient with a blood pressure of 200. Intercurrent diseases are treated, of course, as indicated.

POSTOPERATIVE TREATMENT OF LAPAROTOMIES*

By

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The object of this paper is to emphasize the importance of the after care of patients who have been subjected to abdominal surgery. While interning, I was impressed with the number of patients who, though correctly diagnosed and faultlessly operated upon, died afterwards from complications. If the surgeon is on the alert, he can, while in the abdomen, foretell to a certain degree which complications are liable to appear and plan the best method to cope with them should they arise. The necessity of recognizing and correcting them in their incipiency is of paramount importance. For example: An appendix in which the infection extends well into the base of the cecum and is edematous is very likely to be followed by gas pains. This observation was called to my attention by Dr. J. S. Turberville.

FLUIDS

Since it is taken for granted that the patient has been handled properly preoperatively, I shall begin the postoperative treatment as the patient leaves the operating

*Read before a meeting of the Southwestern Division of the Association, Monroeville, July 28, 1938.

room. Every patient who is subjected to major surgery loses fluid. In uncomplicated cases this fluid loss can be replaced either by proctoclysis or hypodermoclysis. Personally I never use proctoclysis. However, I know many good men who prefer it. If the need for fluid is urgent, it should be given by the intravenous route. The intestines tend to remain immobile for twenty-four hours after operation, thus maintaining rest for the alimentary canal. In order not to defeat this defense mechanism, the patient should not swallow anything for the first twenty-four hours. The fluid during this period can be given by hypodermoclysis—2000 cc. of 5% glucose in saline. No matter how much fluid is given the patient, he will complain of thirst for the first eighteen to twenty-four hours.

DEEP BREATHING EXERCISES

If the patient has had a general anesthesia, it is advisable to have the anesthetist give him carbon dioxide to stimulate respiration, thereby expanding the lungs and lessening the danger of a future pneumonia. It is also advisable to have the patient breathe deeply several times daily for the first week. Passive and active muscular exercises and turning the patient decrease the chances of phlebitis, emboli, etc.

RELIEF OF PAIN

We do not hesitate to use pantopon, gr. 1/3, or morphine, gr. 1/4, as often as necessary to keep the patient comfortable. I have yet to see an addict from morphine following surgery. As a rule it can be discontinued after the third day. Recently I have given sodium amytal and seconal with very satisfactory results for restlessness and insomnia.

ABDOMINAL DISTENTION

This may be mild or very severe. If the distention is gastric, bicarbonate of soda or a carbonated drink will possibly relieve it. If not, a gastric lavage is indicated. If distention is simply intestinal, the passage of a rectal tube and the application of hot stupes will aid materially. Further assistance may be afforded by the injection of pitressin or prostigmine, provided there is no infection present. If there is, the administration of any drug to stimulate peristalsis is contraindicated since it will cause a diffuse, spreading peritonitis.

Paralytic ileus or adynamic ileus, which

has caused many postoperative deaths in the past, can be controlled now that the methods of intravenous administration of fluids and food are perfected to such a high degree. I remember that ten years ago practically every patient who received a venoclysis had a chill. Now we rarely see a reaction from it. Together with fluids intravenously and the method of decompression of the intestine by continuous positive suction advocated by Wangensteen, many cases of ileus and peritonitis recover today who would certainly have died ten years ago. To my mind these two methods of postoperative treatment are the greatest advances in surgery during my time.

In order to treat ileus properly, it is necessary to understand the physiology of adynamic ileus. It is urged by many that the condition is produced by way of the splanchnic irritation induced by surgery. It can be lessened by gentleness in the handling of the tissues. This results in paralysis or at least lowered efficiency of peristalsis. This is accompanied by alimentary dilatation and increased secretion with accumulation of gas. The gas originates from fermentative processes, and perhaps, as McIvor has shown, from swallowed air with which the impotent gut is unable to contend. Here we find a vicious circle: the more the secretion and gas the greater the dilatation, and vice versa. The inhibition of peristalsis slows or prohibits passage of intestinal contents to the lower jejunum and ileum, which is the absorptive portion of the intestinal tract. This lowers and even almost destroys absorption. The impaired absorption, accompanied by the excessive pouring of gastric juices into the stomach and intestinal juices into the upper bowel, brings about two results: (1) marked dehydration of the body tissues, and (2) toxemia as a result of putrefactive changes in the alimentary tract and retention of tissue waste. In decompressing the bowel in true ileus or peritonitis, it is advisable to fenestrate the tip of the rubber tube for a distance of ten to twelve inches and let the tip enter the duodenum. In that way both the stomach and the intestines are decompressed.

Vomiting, which is one of the commonest causes of postoperative distress, will subside of itself, as a rule, within eight to ten hours after operation, if the stomach is left empty. If, however, it does not subside, gastric lav-

age or Wangenstein suction is resorted to. Occasionally morphine is not well tolerated and the vomiting will cease with discontinuance of the drug. Hiccough is rare and is due to an irritation of the diaphragm. It is an ill omen and there are more remedies for hiccough than any other complication, none of which seem to do good. Keeping the stomach empty and decompression of the intestinal tract seem to be the best.

The diet should be nothing by mouth for twenty-four hours—then tap water, Coca Cola, ginger ale, and non-greasy broths. Ice water and orange juice are contraindicated as they tend to form gas. After the third day and the patient has had an enema, the diet is increased according to the individual case. Standing orders are left for the catheterization of the patient every eight to twelve hours. There is more danger of infection from an overdistended bladder than from catheterization. The patient should be given sufficient fluids as to enable him to pass from twelve to eighteen hundred cubic centimeters of urine per day.

HEMORRHAGE AND SHOCK

These sequelae are not frequently encountered today. The distinction may be difficult to determine, but the treatment is practically the same. If possible, the site of hemorrhage should be located and ligated. Transfusion should be given if great loss of blood has occurred. The Trendelenburg position and stimulants are employed also.

FEVER FOLLOWING OPERATIONS

Ordinarily a patient who is operated on without fever should be without fever again at the end of seventy-two hours. If fever persists after this length of time, the wound should be inspected for infection, as it is the most common cause of elevated temperature. (Practically every time the stump of an appendix or gut, if resection is being done, touches the abdominal wall, you are sure to get an infection.) If not in the wound, look for pathology in the kidney or chest, local abscess at site of operation, or generalized peritonitis. A high fever immediately following laparotomy characterizes the condition known as liver shock. Treatment is very discouraging and death usually results within twenty-four hours.

OBSTRUCTION

During the past year we have had on the service at the City Hospital two patients who

developed postoperative intestinal obstruction. They were both gunshot abdomens. Both got along nicely for about four or five days and then began to vomit and be distended. This resembles paralytic ileus and is hard to differentiate. However, I believe ileus comes on earlier. While they resemble each other, the surgeon has to determine which he is dealing with since the treatment of paralytic ileus is medical. Continuous gastric and duodenal drainage through intranasal tube, and glucose and saline intravenously are given. The treatment of mechanical obstruction is immediate surgery.

DRESSINGS

The wound is dressed on non-drainage cases on the fifth day and the dermal or black silk sutures removed. However, if elevated temperature is present, it is dressed earlier. If there is no infection, it is not dressed again until the tenth to the twelfth day when silk-worm sutures are removed. The average patient is discharged in from ten to twelve days.

OCULAR MANIFESTATIONS OF SINUS DISEASE

By

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There are many patients, both in private and clinical practice, who present themselves with eye symptoms for treatment when, in reality, the underlying cause is sinusitis. There is a sufficient number of these cases to warrant reviewing and calling attention to the outstanding causes, symptoms and treatment.

Let us consider first how infections of the nasal sinuses may extend into the orbits. This may be in two ways: (1) by direct extension from the diseased bony walls; and (2) by the venous blood stream, i.e., by a phlebitis of the veins of the various sinuses which usually anastomose with the superior and inferior ophthalmic veins that supply the fatty tissue of the orbits.

CLASSIFICATION OF ORBITAL INFECTIONS

For convenience, I have suggested the following classification of all infections of the orbits:

1. Inflammatory edema of the eyelids with or without edema of the orbit.
2. Subperiosteal abscess with edema of the lids and orbit.
3. Definite orbital abscess.
4. Orbital cellulitis.
5. Cavernous sinus thrombosis.

In the first group, the infection is usually confined to the nasal sinuses and there is only an inflammatory edema of the lids which, however, may become surprisingly swollen. A very important point, however, is that the eyeball is movable in all directions and the vision is not affected. In this stage the orbit itself is not involved. These patients usually get well very shortly under conservative treatment, but it is well to bear in mind that this edema may be the beginning of more severe infections, such as a fulminating sinusitis in which the infection has spread to the brain, but these patients are very ill and show signs of intracranial invasion.

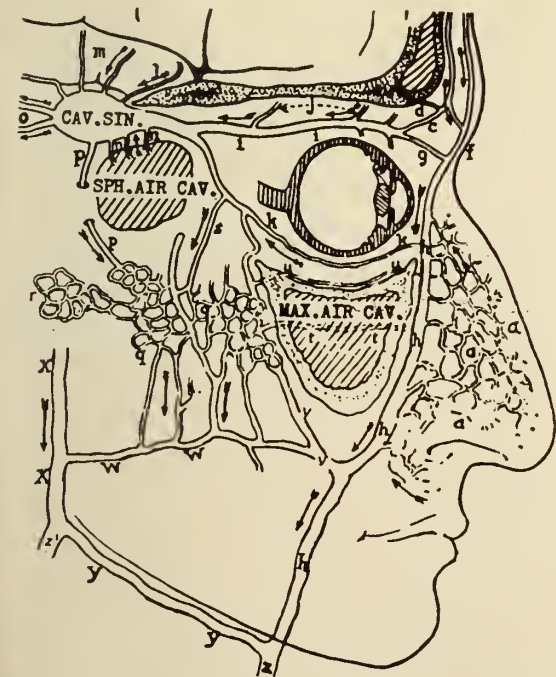


Fig. 1. Diagrammatic representation of afferent and efferent venous channels of the cavernous blood sinus. (After Turner and Reynolds)

In the second group, the infection involves the bony wall into the periosteum and there is usually a collection of pus between them. There is a circumscribed swelling which is painful to the touch. The eyeball is displaced and its movements are interfered with, depending on the location of the abscess. The

pus may extend into the eyelids and practically through, forming a fistula. These cases are frequently misnamed orbital abscesses. They usually require surgical interference.

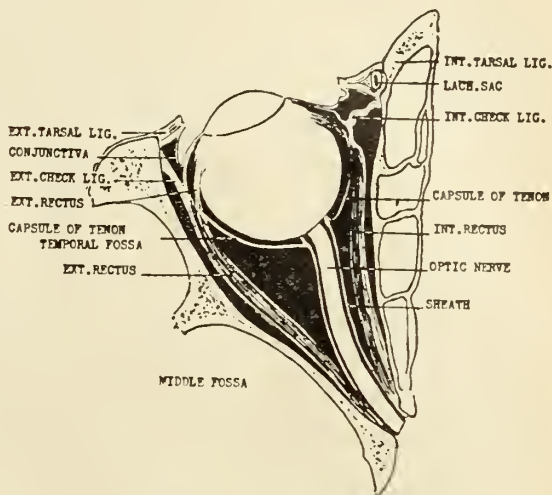


Fig. 2. Orbital contents and arrangement of the Capsule of Tenon. (After F. Treves)

In the third group, the infection spreads into the orbital tissue proper, into the orbital wall and fascia and all through the venous circulation. There is a very pronounced exophthalmos, extreme chemosis of the conjunctiva, and immobility of the eyeball plus interference with vision.

In the fourth group, the infection extends into the orbital tissue through the venous circulation causing a phlebitis of the ophthalmic veins. These patients are gravely ill with a high temperature, extreme exophthalmos, a fixation of the bulb, and disturbance of vision. Grossly, there is no evidence of pus at the time of operation, but microscopically there are found small areas of purulent inflammation scattered in various places through the retrobulbar tissue, especially in the vicinity of the veins. I have seen nine instances of such a condition, six of the patients dying of meningitis. The patients present themselves for eye conditions and, if questioned very carefully, reveal that the trouble followed a nasal infection. They do not appear very sick and are apt to be overlooked in the beginning.

In the fifth group, the infection has extended from the ophthalmic veins or directly from the sphenoid sinus into the cavernous sinus. These patients present a picture of a severe orbital cellulitis. It is almost impos-

sible to distinguish clinically such case from a cavernous sinus thrombosis, unless it is accompanied by an edema over the mastoid emissary. The difficulty in the clinical diagnosis is due to the fact that the signs which are supposed to be characteristic of it are not due to a thrombosis of the cavernous sinus per se, but to a phlebitis of the ophthalmic veins. A positive blood culture may be present in a case of orbital cellulitis with cavernous sinus thrombosis. It is, therefore, impossible to say how many cases of orbital cellulitis die of meningitis with or without cavernous sinus thrombosis.

To illustrate this baffling condition, I will give a brief outline of a private case which I treated.

Case P. M., male, age 38. Admitted to the hospital in October 1932. Three weeks before admission, he had had a severe frontal sinus attack which confined him to bed. A week before admission, the left eye began to be painful and swollen. On admission, the right eye was tremendously puffed, the upper and lower lids markedly edematous, and the vision 20/200. Temperature was 104 and headache was severe. A radical external operation on the frontal sinus was performed. An extreme amount of pathology was found in the sinus to the extent of locating a sequestrum in the right frontal sinus. This patient did not have cavernous sinus thrombosis as was expected and made a complete recovery.

INVOLVEMENT OF THE NASAL SINUS

In a review of ninety cases at the New York Eye and Ear Infirmary, the ratio of the sinus involved was as follows: In thirty cases the frontal sinuses were involved; in twenty-two the frontal and ethmoid; in twenty-six the ethmoid alone; in five the ethmoid and antra; in two the antra; in one the ethmoids and sphenoid; and in four cases all sinuses were involved.

This, of course, was determined by x-ray study. The youngest patient was two months old and the oldest seventy-eight years of age. Twenty-four cases were children from one to ten years of age.

TREATMENT

The surgical and medical treatment that these patients receive will depend a good deal, of course, on the viewpoints of the men who treat them. Personally, I should suggest the following outline:

In the first group of cases non-operative treatment is advised. Conservative treatment

is indicated, such as, washing out of the sinuses and astringent packs. In the second group, where abscess is present, the usual incision for the external ethmoid should be made, the orbit examined, and the pus evacuated. This maneuver will also diagnose the sinus involved. In the third group, exposure is made as in the second group. No radical operation on the sinus is necessary in such cases. Rubber drainage tubes can be passed through the incised orbit into the retrobulbar tissue for drainage. The fourth group gives us the greatest amount of trouble. In these cases there is no visible pus present in the orbital contents. As the infection has traveled through the venous circulation the orbital wall may be intact. The orbital fascia, although not involved, is under extreme tension. Incising the orbital fascia is not sufficient. A radical operation on the sinuses must be done to decompress the orbital contents, to relieve the pressure on the optic nerve, and to prevent the extension of the infection to the cavernous sinus and to the meninges. A radical operation on the sinus alone, without drainage of the orbital contents, results often in fatalities.

In the fifth group, the treatment should be preventive. It is a question whether very much can be done in the presence of an acute cavernous sinus thrombosis. However, since the diagnosis is usually difficult, it is advisable to treat these cases the same way as those suffering from severe orbital cellulitis, in the hope that the trouble is still confined to the orbital tissue.

Duodenal Ulcer—The present concept of peptic ulcer based on prolonged observation and study of many cases is that the lesion is but a local manifestation of a constitutional disease or diathesis. Were the dictum, once an ulcer always potentially an ulcer, better understood by physician and patient the percentage of ulcer recurrence would not be so high. Even when healed, after operation or otherwise, systemic predisposition and local vulnerability remain, making ulcer in most cases essentially and for the life of the patient a condition requiring medical supervision in the maintenance of a regimen in diet and in hygiene adapted to the varying needs of the patient.

The indications for surgery in duodenal ulcers are four: acute perforation, repeated hemorrhage, pyloric obstruction and intractable pain that is not relieved by medical treatment. In gastric ulcer there is the additional factor of malignancy which, when suspected, is an indication for exploration.—*Bunch, J. South Carolina M. A., October, 1938.*

MEASLES

By

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Measles is one of the most dangerous infections of early childhood. Bronchopneumonia is the principal complication, being responsible for the deaths of about half of those in the infant age group (or between six months and three years) who contract the disease. When measles occurs in institutions the fatality rate may reach twenty-five or even forty per cent of those attacked. The danger of complications is directly influenced by the age and the overcrowding and insanitary conditions of the child's environment.

There appears to be very little natural immunity to measles in human beings, since approximately ninety per cent of the population contract the disease. In 1917 C. Herman stated that infants under two months of age are absolutely immune and he believed the immunity was established through the placenta. This immunity gradually becomes less absolute and is apparently lost around eight months of age.

In the majority of cases, it is now possible to establish an active lasting immunity to measles without the danger encountered when the disease is permitted to take its normal course. This is accomplished by controlling the severity of the attack so that the child develops a mild or modified form of the disease. This control, which heretofore has been attempted with convalescent sera or adult blood, seems to have been made more certain, and also more easily applicable, through the use of the pooled globulin obtained from human placentas as suggested by McKhann and Chu.

Karelitz has shown that the protective antibodies in placental extracts are derived from the contained blood, the protective power of the "extract" of an individual placenta being the same as that of an equivalent amount of the blood of the respective mother. Incidentally, the content of other antibodies (diphtheria antitoxin) was the same in the placental fluid and the corresponding blood serum.

This fact indicates that results obtained with convalescent or adult serum can be reproduced with the more convenient placental extract in equivalent dosage.

In the Detroit epidemic of 1934-35 a total of 27,258 cases of measles with 58 deaths was reported, as contrasted with 163 deaths in 15,000 cases reported in the epidemic of 1927-28. Convalescent serum shares with immune globulin the credit for the lowered fatality rate. Among the several hundred cases reported as having been treated with immune globulin in this Detroit epidemic of 1934-35 there were no deaths.

Laning and Horan, who supplied the Detroit figures, also report their own experience with immune globulin. Given for protection in nineteen cases, twelve failed to develop the disease and the other seven had light attacks without complications. Given for modification in seventy-four cases, sixty-eight had light attacks and six moderate attacks. In other words, there were no severe cases and no complications among those given immune globulin. On the other hand, in forty-six controls, five had light attacks, eleven moderate, and twenty-six severe—with fifteen complications (of which six were bronchopneumonia) and two deaths. The practical advantages of immune globulin are as follows:

1. Small dosage.
2. Ready availability, since the placentas are more easily obtained than convalescent or adult sera and the extract may be stocked for epidemic emergencies.
3. Uniform antibody content, experience indicating that the protection power in different pooled extracts, each prepared from about 600 placentas, is fairly constant.

The dosage of immune globulin depends upon the desired aim of the physician—whether he wishes to prevent the disease entirely, as in a hospital ward where contraction of measles by patients ill with other diseases might prove fatal, or merely to modify the course of an attack of measles, in which case the patient would build up a permanent active immunity. The latter procedure is particularly efficacious in the home where they are other children in the family exposed to the disease and in whom it would be more desirable to permit the occurrence of a slight attack of measles.

The treatment with immune globulin is listed under three subtitles: 1. Prevention, 2. Modification, and 3. Treatment after the stage of invasion has appeared.

2. It is easily given, the stock is standard, and the dose is small.

PREVENTION

Indications: 1. Chronically ill, debilitated, tuberculous, and acutely ill children; and 2. Patients in foundling asylums, orphanages and sanatoria.

Dosage: 4 cc. as a minimum; larger quantities depending on the length and intimacy of exposure. The injection is made into the gluteal muscle. It should be remembered that the immunity conferred by prophylaxis is of short duration, lasting but three or four weeks, so that in epidemic areas individuals will be re-exposed, necessitating further injections.

MODIFICATION

Indications: Under this heading are indicated healthy children outside of institutions. Modification is desirable to avoid serious complications and sequelae such as bronchopneumonia, catarrhal otitis media, cervical adenitis, activation of latent tuberculosis, and occasionally encephalitis.

Dosage: The dosage for modification is 2 cc., as soon as measles is diagnosed in the child with whom exposure occurred; and injection is made into the gluteal muscle.

TABLE 1
TREATMENT OF MEASLES

	For Modification	For Protection
1. Convalescent Serum	0.1 cc. per lb. before 6th day	0.2 cc. per lb. before 6th day
2. Human Adult Serum	0.5 to 0.75 cc. per lb. before 6th day	1 cc. per lb. before 6th day
3. Immune Globulin	2 cc. within 3rd or 4th day	4 cc. early

Note: If whole blood is used, a dosage equivalent to twice that of the corresponding serum is indicated.

TREATMENT

Use of immune globulin in treating measles in the stage of active disease has been fairly well established as a helpful therapeutic procedure. In the earlier experiences with immune globulin in the treatment of the attack, McKhann recommended a larger dose (5-10 cc.) than that used during the incubation period. More recently it has been observed that the injection of 2 cc., or in some cases only 1 cc., often is followed, within a few hours, by a decided amelioration of the cough, which is frequently a most distressing symptom.

Levitas, in an article published in the August 17, 1935 issue of the Journal of the American Medical Association, reports a se-

ries of twenty-eight cases seen in his private practice during the epidemic of 1934-35 in which cough and toxicity seemed to be definitely lessened following the use of one to two cc. of immune globulin. In view of these observations, as well as the occasional local and general reactions produced in some children by larger doses, it would seem preferable in the treatment of measles to use the smaller doses (2-4 cc.) and repeat them at the discretion of the physician. McKhann has confirmed the efficacy of these smaller treatment doses.

REACTIONS

Regarding reactions, it should be mentioned that the isolated globulins of human blood have a property of producing local irritation in the form of edema and erythema and of causing a rise of temperature, with malaise, in some subjects. These reactions seldom last longer than 12-24 hours and since they are not anaphylactic in nature (being caused by human proteins) they have not been serious. Eley reports, in the New England Journal of Medicine, August 1, 1935, that only 4% of 1232 patients showed more than a very mild local reaction and only 2.5% a febrile reaction of over 100°. He concludes that "neither the frequency nor the severity of the reactions are sufficient to contraindicate the use of placental extract as a prophylactic measure in the control of a disease as serious as measles."

Since convalescent serum, adult human serum, and whole blood are still used extensively, each one having some value in particular instances, it might be of some service to compare the relative dosage of each, depending upon whether one wishes to modify or prevent measles.

The accompanying table (Table 1) shows the dose of convalescent serum, adult human serum and immune globulin for modification and prevention, with a note referring to the use of whole blood. It can be seen, however, that the use of whole blood, although perhaps the most accessible, may be impracticable because of the large dosage necessary to accomplish the desired result.

SUMMARY

1. Immune globulin (human) is of definite prophylactic value in measles, and in the treatment and modification of the disease.

3. It is of especial value in young infants, in whom the disease carries high morbidity and mortality.

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Doctors and Lawyers—Editorially the *San Francisco Chronicle* said recently:

"The State Board of Medical Examiners announces that 172 of 174 applicants had passed the examination for physicians and surgeons recently held in San Francisco. Only two fell short of the high grade of 75 per cent required, and these two would doubtless have met any less stringent standard. On the same day, eleven out of fourteen met the requirements for the much more limited art of chiropody.

There has never been an examination for admission to the bar of California, since the present examination system was established, on which anything approaching this proportion of success was reached. It would be a rare examination which even half of the applicants passed.

And this is not because the standards for lawyers are higher than those for physicians, or the examinations more difficult. The exact contrary is the case. If the preliminary training of aspirants to the bar were uniformly as high as that in medicine, most of the candidates would pass, too. In fact, nearly all of those who have this training do pass.

The difference is that there are now no medical schools but class A schools; they admit none but highly selected university graduates, and they permit only those to remain in medical school

who show the necessary ability and diligence. Naturally, the survivors of this process pass the state examinations also, with few or no exceptions.

If the law is ever to be in fact what it has always been in name, a "learned" profession, the same standards of preparation will have to be required of aspirants to it. The question still remains whether the law should be a learned profession. Curiously enough, there are two opinions in this. There is only one, as to medicine."

This comment indicates and emphasizes the necessity for an objective, unbiased grading of professional schools. A single state board could not possibly undertake the examination and rating of such schools, for the boards have neither funds nor trained personnel. Associations of professional schools could not assume the responsibility for self appraisal because the schools cannot escape being motivated by self interest. In medicine the medical profession itself, through the Council on Medical Education and Hospitals, has provided an independent yet dependable classification which has won the support of public opinion and thereby gained all but universal acceptance. In the field of legal education there has been much improvement as a result of the efforts of the American Bar Association, but a truly satisfactory standard will not be attained as long as the people themselves are undecided as to whether the law is, or is not, a learned profession.—*J. A. M. A.*, October 8, 1938.

Artificial Pneumothorax—Unilateral progressive tuberculosis, where the disease involves no more than one-third of the lung area, and does not respond to a reasonable period of expectant treatment, is the ideal indication for pneumothorax therapy; and most favorable results are obtained with this type of case.

Severe or recurrent hemorrhage is most satisfactorily controlled by pneumothorax when the site of the bleeding can be determined. A trial of pneumothorax when this complication occurs is considered obligatory.

In cases of pulmonary tuberculosis with beginning infiltration and a positive sputum as well as moderately advanced cases, if, after an adequate trial of strict expectant treatment the disease is progressive in character, or if not responding satisfactorily to treatment, artificial pneumothorax should be instituted.

In the unilateral caseous pneumonic types of a rapidly spreading character, contrary to the weight of opinion, artificial pneumothorax has been attended with all too frequent rupture of the lung and accompanying tuberculous or mixed empyemas and their sequelae, bronchopleural fistulae. For this type of case the more radical collapse measures are recommended as early as is feasible.

In unilateral cavity cases, the earlier an artificial pneumothorax is established the better, thereby diminishing the danger of extra-pulmonary metastatic infection and lessening the possibility of an extension to the same or the contralateral lung.—*Miller, South. M. J.*, October, 1938.

THE JOURNAL

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A FOUR-YEAR MEDICAL SCHOOL

Interest in a four-year medical school for Alabama, manifest for a long time, seems to have been brought to a focus by action of the State Board of Censors on August 31 in adopting resolutions designed to aid in the attainment of this worthy end, and to promote an increased appropriation for the State Department of Health. These resolutions, covering matters in which every physician in Alabama has a vital interest, follow:

Whereas, Public health and the training of doctors, nurses and public health workers are fundamental to the progress and welfare of all citizens of Alabama, and

Whereas, The number of doctors in the State has steadily decreased and the population has steadily increased for the last quarter of a century, until today the ratio of doctors to population is the lowest of any state in the Union, and

Whereas, The organized medical profession of Alabama constitutes the State Board of Health under the laws of Alabama, and consequently should be constantly replenished with native young doctors educated to serve the needs of their own people in order that the State Board of Health may function to the greatest advantage, and

Whereas, Medicine is the only one of the honored professions in which the educational facilities of the State are incomplete and can be provided best in our own State for our own people, and

Whereas, State appropriations for public health and for medical education have for many years been shamefully inadequate, and

Whereas, The State of Alabama in our opinion can now afford properly to support public health and medical education, and

Whereas, The Medical Association of the State of Alabama, constituting the State Board of Health, and the Board of Censors of the Association, constituting the State Committee of Public Health, as well as the Medical Alumni Association of the University of Alabama, have repeatedly endorsed the proposal for a complete four-year medical school as an integral part of the University of Alabama, therefore, be it resolved:

1. That this Board declare itself in favor of increased state appropriations for the State Board of Health.

2. That special appropriations be made to the University of Alabama for the erection, equipment and maintenance of a small but high grade complete four-year medical school with a State Charity Hospital and the necessary accompanying School of Nursing, all to constitute an integral part of the University of Alabama, the organization, location and administration of such schools and hospitals to be left to the best judgment of the Board of Trustees of the University, after careful consultation with the Board of Censors of The Medical Association of the State of Alabama and with the Council on Medical Education and Hospitals of the American Medical Association.

Following upon this action by the Association's governing body, a special committee of the Alumni Association of the Medical Department of the University of Alabama for the promotion of a four-year school of medicine, composed of Drs. W. D. Partlow, Chairman, E. V. Caldwell, S. A. Gordon and J. P. Collier, addressed a letter to all our physicians, which said, in part. "We assure you that the plans we have in mind will provide for the utilization of the profession throughout the State to their individual advantage and to the advantage of all sections of the State"; and requested the President and Secretary of every County Medical Society to submit to their society for adoption resolutions in harmony with those unanimously adopted by the State Board of Censors. Response to the appeal has been most gratifying, indicating that the profession all over Alabama is enthusiastically interested.

Such worthy endeavors as those embraced within the resolutions should command the unqualified support of every one who appreciates that "public health and the training of doctors, nurses and public health workers are fundamental to the progress and welfare of all citizens of Alabama."

NOISE

"The multiple and insidious ill effects of noise constitute an inadequately recognized baneful influence on the lives of many million persons throughout the country, especially those who live in urban areas. In noisy industrial employments it is not unusual to find in those groups of workers below 30 years of age as many as 50 per cent with some degree of impaired hearing. This noise deafness constitutes the most serious and tangible of the ill noise effects (echoes), but there is, in addition, a host of scarcely measurable injuries made evident by neuroses, loss of sleep, excessive fatigue, emotional disturbances and the like that jeopardize the complete well-being of most persons, and in which noise may well play a part." Thus do McCord, Teal and With-
eridge¹ summarize the situation in their study of noise and its effect upon human beings.

The authors inform us that occupational deafness usually develops gradually, but that the accrued damage is apt to be permanent. The deafness of boilermakers has long been proverbial and the authors believe that few, if any, of these men enjoy normal hearing. Others whose occupations lay them more or less liable to deafness of varying degrees are smiths and machinists, weavers, drop forge workers, locomotive crewmen, and soldiers who have to hear much artillery fire. And the authors tell us that in New York "policemen and taxi drivers are often affected with deafness because of their continuous work in traffic."

The authors inform us of a number of instances, in both this country and Europe, in which, in office and factory, the speed of the workers has been increased and the number of errors greatly reduced following the elimination or diminution of noise. They also tell us that the introduction of air conditioning makes for silence in that it eliminates most extraneous noise. Industry is beginning to learn that noise is harmful and costly and we are told that efforts are now being made to lessen noise in many plants. "As an example, to avoid the noise and vibration of a pneumatic riveter, pres-

sure riveting may be substituted for impact riveting Another solution is the use of welding in place of riveting, and at the present time the steel skeletons of many buildings and other structures are welded instead of riveted." And "many modern offices are made noisy by the use of endless typewriting, duplicating, accounting and addressing machines, along with the general din of conversation. The elimination of such noise should be controlled at the source through the use of 'silent' or noiseless office equipment. That which cannot be so eliminated may be minimized through proper architectural devices."

The authors cite Kennedy's investigations on the effects of noise on intracranial pressure in which it was stated that "a sharp loud report produced notable irregular disturbance and a rise in intracranial pressure to four times normal. A second noise caused a second peak in the curve." And we are further informed that "Landis has shown that the noise of a firecracker produced an increase in the systolic blood pressure of 20 mm. in twenty seconds."

The investigators consider the harmful effects of noises on digestion, on concentration and memory and discuss the fatigue due to noise. "Long continued exposure to annoying or fatiguing sounds may soon lead to a neurasthenic or psychasthenic state." And in conclusion we are told that "the compilation of material making up this report presents extensive evidence that genuine injury is widespread as a result of noise action and that noise deafness is the chief of these dysfunctions in terms of both frequency and severity."

The study of noise and its effects is very recent and the word "decibel" has been familiar to most of us only during the last few years. There is a Noise Abatement Commission in New York and there are similar organizations in London and elsewhere. They are studying the subject and at least a beginning is being made. Industry will probably sharply reduce noise in both plant and office for the good reason that it pays to do so. But what of the hideous sounds emanating from automobile horns, radios, sound trucks and loudspeakers, locomotive and other whistles, street cars, trucks, busses and heavy traffic everywhere, to say nothing of the neighbor's dogs and chickens? It would be pleasant to think that many of the above

1. McCord, Carey P., Teal, Edwin E., and Witheridge, William N.: Noise and Its Effects on Human Beings: Noise Control as a By-Product of Air Conditioning, J. A. M. A. 110: 1553 (May 7) 1938.

disturbances will soon be greatly reduced, but such good fortune is unlikely. Certainly it is not reasonable to expect a civilization that cannot or will not check the frightful carnage upon its highways to be greatly troubled by noise.

EXAMINATIONS FOR LICENSURE

Applicants for licensure to practice medicine in Alabama will be accorded examinations by the State Board of Medical Examiners January 3, 4 and 5 in Montgomery. Registration will take place on the afternoon of January 2 at the State Department of Health building.

Those desiring information concerning the examinations should communicate with Dr. J. N. Baker, Secretary of the Board, 519 Dexter Avenue, Montgomery.

A CHALLENGE TO ALABAMA AND ITS MEDICAL PROFESSION

In this issue of the Journal, under the Association Forum, appears a brief synopsis of the recent survey made by Mr. Lowell Mellett portraying the economic conditions now existing in the South. This short analysis deals largely with the chapter of the report relating to health; yet, the complete report, which is not lengthy, should be carefully read in order to get a well-rounded picture of the whole. This every thinking physician in Alabama should do; for in it is offered a distinct challenge to the leaders in all walks of life, including the medical profession, which, for so many years, has guided the health destinies of our State. Probably no group more appreciates the need of raising the economic level of the masses of our people and certainly no group stands more willing or ready to contribute its full share now, as it has always done in the past.

No other group serving society—not even the clergy—has had applied to its membership quite the rigid culling processes for suitability and training as that of the profession of medicine, reaching far up-stream, almost to the adolescent period, and continuing through a long period of didactic and disciplinary training. As a consequence, the finished product, upon which state licensing boards are called upon to place a final and legal stamp of approval for the better pro-

tection of the public health, represents an individual worthy of public confidence in by far the majority of instances. The personal equation of human conduct and behavior in after life is a factor defying evaluation by any of society's present methods. However, one can think of no better preliminary discipline, in order to insure a dependable human product, than that to which the candidate for the doctorate of medicine is subjected. In corroboration of the above, of 174 graduates of approved medical schools recently appearing before the California licensing board—a rather exacting and difficult one—all but two were successful.

Doctors in the mass—and likely largely because of their prolonged scientific training and because of the uncertainties of human life which they struggle to preserve—possess a degree of conservatism—possibly ultra-conservatism—not to be found in any other group of society. Contributory, too, to such an attitude on the part of the profession as a whole, are the heritages, traditions and ethics of this the oldest of all the learned professions. As a consequence, physicians are loath to assume the initiative in social and economic change, preferring, seemingly, to adapt themselves to conditions after a change has been wrought. Our present day, topsy-turvy, social structure unquestionably needs this sobering leaven to be found amongst physicians. Yet, to make it useful, they must discard their characteristically shrinking tactics and assume a leadership in things medical for which their training peculiarly fits them.

In substance, the above reflections amount to this:

The medical profession of this State and its creature, the health department, have the opportunity of rendering to their State and its citizens a further valuable service through a vigorous and active cooperation with the industrial and agricultural leaders seeking to raise the general economic level of the State as a whole. If one may gauge future performance by past experiences, this opportunity will not go unheeded.

"A country physician, Crawford Williamson Long, not quite twenty-seven years of age and just out of medical school, by observation, reasoning and experiment did something never before accomplished, rendering a human being unconscious by means of inhalations of sulphuric ether."

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE RECENT REPORT DEALING WITH THE SOUTH'S ECONOMIC SITUATION

J. N. Baker, M. D.
State Health Officer

In the thirteen states constituting what is generally regarded as the South are to be found approximately 36 million persons, or more than one-fourth the total population of the United States. In this huge crescent-shaped area of some 352 million acres, extending from Virginia to Texas, one finds startling variations in topography, ranging from vast prairies to the highest mountains east of the Rockies. It is richly endowed with physical resources. Its climate and soil are just about all that could be desired. For six months out of the year most of its farmers can plant, work and gather their crops with hardly any fear of damage from weather cold enough to bring frost, a privilege enjoyed by residents of few other regions. Its soil and forest resources are vast. Its naval stores offer fields for immense wealth. Its hydro-electric power is cheap. Its pastures are plentiful and luxuriant. Its mineral resources are enough to stir the envy of less favored regions. Under its soil are to be found enough crude oil to supply nearly two-thirds of the nation's present consumption. In brief, the South apparently has the makings of a vast manufacturing and agricultural empire.

Yet many factual data seem unerringly to point that the South leads the nation in per capita poverty. It lags in educational progress. Closely associated with ignorance and poverty is disease—particularly the preventable types of disease. Inevitably, therefore, more of the South's population will be caught in the clutches of this vicious circle—ignorance, poverty and disease. This situation was recently characterized by the President of the United States as "the nation's No. 1 economic problem."

On July 25 of this year Lowell Mellett, executive director of the National Emergency Council, submitted to President Roosevelt, at the latter's request, a comprehensive report prepared with the assistance of a committee of notable Southerners in an effort to

find out what was wrong with the South. That report covered such aspects of the section's problems and possibilities as economic resources, soil, water, population, incomes, public and private, education, health, housing, labor, women and children, ownership and use of land, credit, use of natural resources, industry and purchasing power. Each of these subjects is treated in a separate section of about three printed pages.

Because of the long-established cause-and-effect relationship between economic status, living conditions, housing, etc., and health, the reader who begins this booklet in the orthodox fashion—that is to say, at the beginning—is almost able to anticipate, from what he has read about such matters as economic resources, population, private and public income, and education, what lies just ahead as he begins Section 7 and glances at the title "Health." His conviction that the authors of the report are about to depict Southern health conditions to be sadly deficient becomes more firmly fixed in his mind as he peruses the first two paragraphs:

"For years evidence has been piling up that food, clothing, and housing influence not only the sickness rate and death rate but even the height and weight of school children. In the South, where family incomes are exceptionally low, the sickness and death rates are unusually high. Wage differentials become in fact differentials in health and life; poor health, in turn, affects wages.

"The low-income belt of the South is a belt of sickness, misery and unnecessary death. Its large proportion of low-income citizens are more subject to disease than the people of any similar area. The climate cannot be blamed—the South is as healthful as any section for those who have the necessary care, diet and freedom from occupational disease."

There are doubtless many physicians and sociologists in the South and elsewhere who disagree with certain statements in the report; as, for instance, that the unquestioned greater prevalence of syphilis among Negroes here is due to "the greater poverty and lower living conditions" of the colored peo-

ple. Although poverty probably plays a part, as, for example, in preventing an early-stage patient from obtaining proper diagnosis and treatment, the average friend of the Negro is convinced that the wide difference in moral standards of the two races—specifically, the greater tolerance on the part of both races toward sexual promiscuity among the Negroes—goes far to explain the fact, for instance, that Alabama's syphilis death rate in 1937 was only 3.8 per 100,000 population among the white people and 40.9 per 100,000—more than 10 times higher—among the State's colored people.

Malaria of course is one of the South's great disease problems, and naturally receives considerable attention from the learned group whose studies form the basis of the report. The experiences of a number of Southern industrial firms before and after malaria control measures were undertaken are cited and give added strength to the widely held view that such measures are wise from the point of view of hard-boiled economics as well as from that of high-souled humanitarianism.

Other phases of public and personal health in the South which were discussed in the report include the shortage of doctors—the Alabama aspects of which received serious attention at the 1938 meeting of the Medical Association of the State of Alabama—tuberculosis, pneumonia, industrial hygiene and pellagra.

It should never be forgotten, however, that the people of the South also die in large numbers from diseases that are leading killers the nation over, but are not mentioned in this report. Indeed, of the seven forms of illness that head the list of killers in Alabama, only one, tuberculosis, receives as much as a passing comment in the section devoted to health. One may assume that the failure to refer to the other six—influenza, cancer, cerebral hemorrhage, heart disease, pneumonia and nephritis—was not due to oversight. It was due merely to the fact that these six diseases are in no sense the product of the South's poverty, its low per capita income, its poor housing, and the other evidences of its general social backwardness. There is a crumb of comfort for old-school Southerners who like to point to their section's bright spots, in the fact that, in spite of the South's poverty and its bad showing in some fields, most of its people are dying

from the same diseases that are most fatal to the residents of economically better-favored sections. The raising of the South's present substandard economic level—as its leaders in industry, agriculture, education and health are resolved to do—coupled with the gratifyingly encouraging progress now being made in the mastery of those environmental diseases stressed in the report, furnish a sane and sound approach for dissipating most, if not all, of existing handicaps hovering over the South.

Committee Contributions

MATERNAL AND INFANT WELFARE

USE AND ABUSE OF OXYTOXICS IN OBSTETRIC PRACTICE

The place of oxytoxics in obstetrics has been debated pro and con for many years. During the past few years many new preparations have been brought to the medical profession with varying results.

The two main groups of oxytoxics are the extracts and compounds of the pituitary gland and of ergot. The pituitary extracts act on smooth muscle and the reaction is very prompt, though, as a rule, it may produce sudden violent contractions of the uterus. Occasionally these contractions will be of long duration, producing uterine damage and harming the fetus. Any form of pituitary extract given before the complete dilatation of the cervix may cause cervical lacerations which can be disastrous. Uterine muscle, before delivery, seems to be more susceptible to the stimulation of the pituitary extracts. Obstetricians have learned by sad experience the dangers of pituitrin, when given at this time. Many of our best obstetricians recommend that pituitary extracts be given only after delivery and preferably after the expulsion of the placenta, except in those cases where there is considerable hemorrhage following the birth of the baby.

Pituitary extract—or pituitrin in a few well selected cases—in 1 to 2 minim doses is recommended by some authorities as a method of induction of labor. Its success does not warrant its use except in cases where other medical inductions have failed and when there is no abnormality of position of

fetus or size of the pelvis. As it is difficult and often impossible to determine before hand the susceptibility of the uterus for pituitrin, its use should be debated with all seriousness and awe.

Ergot in the past few years has begotten many descendants, some of them being very superior to the older preparation. Ergot has a most definite and practical place in the practice of obstetrics. Its action is similar to that of pituitrin in that it contracts uterine muscle, though the action is slower and more prolonged. When used together they complement each other, for the action of the ergot begins as that of the pituitrin begins to wear off. The contractions produced by ergot often last several hours.

Ergot preparations act not only on the fundus of the uterus but on the cervix and lower uterine segment. Because of this, ergot should not be given before the delivery of the placenta, as the contraction of the lower uterine segment often holds the partially expelled placenta in an hour-glass formation. The third stage of labor cannot be completed until after the effect of the ergot has worn off, and there is sufficient relaxation to allow the expulsion of the placenta. When the placenta has not separated before the ergot contracts the lower uterine segment, there may be concealed hemorrhage present behind the partially separated mass.

Ergot should not be given in premature labors, miscarriages or abortions unless the larger portion of the placenta has been expelled. Ergot has a most definite and beneficial role to play in case of incomplete abortion. A small attached or unattached placenta retained in the uterine cavity may be expelled by several doses of pituitary ex-

tract at one-half to one hour intervals, to be followed by ergot, after the expulsion of the retained portions of the placenta, at four to six-hour intervals for one to two days.

A well contracted uterus has less bleeding, and therefore fewer blood clots which may act as media for any bacteria which are present.

Oxytoxics given *after* the expulsion of the placenta are a boon to the patient and to the doctor. The physician who uses oxytoxics indiscriminately before the end of the third stage of labor (expulsion of the placenta) is handling a stick of dynamite, lighted with a very short fuse. It is too dangerous for intelligent physicians to experiment with.

INDICATIONS

1. To contract the uterus after expulsion of the placenta.
2. Pituitrin may be used in $\frac{1}{2}$ to 1 cc. doses in cases of hemorrhage following delivery to aid in separation of the placenta.
3. To stimulate labor contractions when the cervix is *completely* dilated and the contraction has stopped. To be given only in two to three minim doses at twenty to thirty-minute intervals.
4. To induce labor after other medical inductions have failed in cases where termination of labor is necessary. Dosage: 2 minims every fifteen to twenty minutes for six or eight doses.

CONTRAINDICATION

1. Before the complete dilatation of the cervix.
2. When there is any disproportion of fetus and pelvis.
3. Ergot should never be given *before* expulsion of the placenta.

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

J. N. Baker, M. D.
State Health Officer in Charge

WPA STATE-WIDE HEALTH EDUCATION PROGRAM

SPONSORED BY THE STATE HEALTH DEPARTMENT
AND THE ALABAMA TUBERCULOSIS
ASSOCIATION

As the nation turns its thought to the raising of health standards, more widespread medical care, and the stressing of preventive

medicine as the key to better health, the need for a concerted program of mass health education becomes daily more apparent.

Health authorities are convinced that America's millions cannot be legislated into health, nor will all of the combined medical programs in the world bring to the great mass of the people prolonged life and better health unless they know and are willing to adopt principles of healthful living.

When even the elements of community sanitation are too closely bound up with the

personal conduct of individuals to be completely achieved by law, how much more so are the complex problems associated with the diseases now receiving particular attention, notably, tuberculosis and syphilis? Most authorities agree that these are to be solved only by a general persuasion of individuals to accept and apply known measures of preventive medicine.

As various plans for mass health education have been advanced and have brought the problem into prominence, considerable attention has been focused upon the State of Alabama, where a four-point program of health education, in line with modern methods of preventive medicine and aimed particularly at the control of tuberculosis and the venereal diseases, has been operating for the past year.

Under the direct supervision of the State Department of Health, the Alabama Tuberculosis Association and the Jefferson County Health Department, and with the assistance

of the Works Progress Administration, this program has made use of practically every visual and auditory medium in putting before the public valuable health information.

The program has used four chief methods of approach. It consists mainly of the preparation and delivery of health lectures, the exhibition of health motion pictures, the preparation, delivery and distribution of radio talks on health, the presentation of radio health dramas, and the production and distribution of health literature.

Special attention has been given to the problems of tuberculosis and venereal disease control. At the same time other phases of personal and community health, such as nutrition, the communicable diseases of childhood, community sanitation, certain aspects of certain other diseases and proper care of the body, have also received considerable attention.

The WPA personnel used in the work has operated under the direct supervision of the



As a result of a state-wide health education program which urged medical attention and examinations, and stressed preventive medicine, many Negro boys and girls have received examinations at the WPA-built health center in Birmingham.



The State Health Department, which is conducting an extensive health education program with the use of WPA funds and workers, feels that the radio is one of the most popular and effective mediums of putting across health education. This family listens every week to the radio health programs. Ways to good health through right living, preventive measures and knowledge of particular diseases are some of the things these programs stress.

agencies that have been mentioned. A short course of instruction and training, consisting of a review of the principles of preventive medicine and methods of health education, was given these WPA workers, who, for the most part, were unemployed teachers, social workers, and professional persons.

Since the initiation of this work, ninety-eight radio lectures have been prepared and delivered to an estimated radio audience of more than 350,000 persons in the Birmingham area. This number was established on the basis of a survey conducted among more than 90,000 homes. Seventy-one of these radio talks have been mimeographed and over 1,400 copies distributed to social workers, public health personnel and others.

Three radio programs have been presented each week. One, a fifteen-minute talk, has been given by the Jefferson County health officer or some other health official. An-

other radio program consisted of fifteen minutes of music, played by WPA musicians, interspersed with health hints and suggestions which aid in the prevention of disease. In addition, a radio drama has been given each week. The last mentioned programs have presented in dramatized form little known episodes in the lives of great men, who died at an early age from some disease which might have been prevented or cured had medical attention been given in time. With each drama has been given some history of the particular disease with preventive hints and advice.

In addition, lectures, motion pictures, and lantern slides have been presented before various groups. These have been slanted to meet the particular problems of each group. All of the Birmingham luncheon clubs have been visited one or more times. Lectures and illustrating pictures have been given in

churches and schools, before Negro groups, factory groups, WPA education classes and so on.

Since the beginning of the program over 1,600 of these lectures have been given, with an estimated attendance of 143,000. As a rule, these health lectures were about fifteen minutes in length, with fifteen or twenty minutes of free discussion and questions afterwards.

During this same period over 1,200 motion pictures have been exhibited with an estimated attendance of 104,000. Of this number approximately 450 pictures have dealt with the problem of tuberculosis, and some 400 with the venereal disease problem, while the others have had to do with various public health and personal hygiene problems.

Other accomplishments include the distribution of over 245,000 pieces of health literature, and the preparation and distribution of charts, graphs, and health posters to stores, schools, churches, fairs, and other public meeting places. The large department stores have cooperated in the program, permitting the displaying of such posters and exhibits, often to the extent of donating an entire window.

Doctors and physicians have cooperated in every way. Mass health education is successful only if it raises the health of the community. This is only completely possible if the medical profession not only backs up the program by follow-up work in treatments but also lends its assistance in promoting the educational effort.

The State of Alabama has placed upon its organized medical profession, i.e., the state and county medical societies, direct and full responsibility for public health. The State Medical Association is by law the State Board of Health. This has assured the aid and cooperation of private physicians in the program and has made possible the use of every weapon in its fight against disease.

In the main, the purposes of this health education program were to acquaint the general public with healthful ways of living, to acquaint them with the early symptoms or possible symptoms of various diseases, to instruct them in the value of prevention, and advise them of the need of medical attention when symptoms appeared. Those to whom the program was directed were advised to see their doctors or to avail themselves of the many free clinics if they were unable to

pay. As a result of this campaign private physicians, clinics and health centers in the Birmingham area reported increased attendance during the past year.

Future plans call for an extension of this program into approximately 25 additional counties in Alabama. The public health authorities in Birmingham feel that workers competent to carry out a program of this type, with the aids to be provided through specialists at their headquarters, can be secured through WPA rolls in the counties indicated.

In order to maintain control over such a wide program, every effort will be made to provide as many mechanical aids as possible. For example, radio programs will be prepared by transcription, using equipment and programs available in Birmingham. Field personnel in the counties concerned will be used for distribution of the transcriptions. Similarly it is planned to develop a series of canned health lectures, each to consist of a series of lantern slides accompanied by a transcribed lecture. These lectures will be devoted to the various health problems of Alabama, such as, tuberculosis, syphilis, hookworm, sanitation, and health organization.

It is also planned to produce a series of health moving pictures on 16 mm. film, using equipment available to the sponsor in Birmingham. The silk-screen poster plant will be expanded and a greater number of posters will be prepared for exhibit in schools, stores and churches.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

SEPTEMBER 1933

Examinations for diphtheria bacilli and Vincent's	1,974
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	934
Typhoid cultures (blood, feces and urine)	1,641
Examinations for malaria	3,918
Examinations for intestinal parasites	2,501
Serologic tests for syphilis (blood and spinal fluid)	17,747
Darkfield examinations	17
Examinations for gonococci	1,590
Examinations for tubercle bacilli	1,481
Examinations for Negri bodies (microscopic)	80
Water examinations (bacteriologic)	756

Milk examinations	2,100
Pneumococcus typing	8
Miscellaneous	822
<hr/> Total specimens	<hr/> 35,569

A CHANGE IN AGGLUTINATION PROCEDURE

The time honored microscopic agglutination test, employing dilutions of a drop of blood with a living suspension of typhoid organisms, was first used as an aid in the diagnosis of typhoid fever by Grunbaum and Widal in 1896. As with all other laboratory procedures certain refinements and improvements have been made in the test. The result has been the replacement of the old microscopic Widal with the much more accurate macroscopic Widal test which employs dilutions of serum with a formalized suspension of known, standard, typhoid organisms.

The Bureau of Laboratories has abandoned entirely the microscopic (dried blood) Widal test in favor of the newer, more satisfactory macroscopic (wet blood) Widal test. The Central Laboratory and all Branch Laboratories will henceforth report all dried blood specimens received for Widal test as "unsatisfactory" and will request that the doctor submit a proper specimen for a macroscopic Widal test (i.e., from 3 to 5 cc. of blood in a sterile tube as is submitted for a serologic test for syphilis).

The advantages offered through this new procedure are as follows:

1. Standard formalized suspensions of the organisms prepared in the Central Laboratory are used as antigens. These suspensions are of a known, tested, smooth strain of the organism and possess a uniform agglutinability.

2. Accurate dilutions are made possible, with the result that an accurate estimate of the agglutinin content of the patient's serum is obtained, which is of definite value as an aid in diagnosis.

3. Another advantage offered by the macroscopic technique is that it requires a specimen which permits routine testing of all agglutination specimens against three antigens: *E. typhosa*, *Br. abortus*, and *Proteus OX₁₉* (Brill's). All of these diseases are prevalent in Alabama and may often simulate one another.

Only those tests in the above group of rou-

tine tests which are specifically requested by the physician will be reported by the laboratory, except that when positive results are obtained in a test not requested such results will be reported immediately with the requested tests.

4. Still another advantage offered is the routine culturing of blood clots from all agglutination specimens received. This is accomplished after aseptic removal of serum for the agglutination tests. The clot is kept in the laboratory icebox overnight and the proper steps for cultivation are taken in accord with the result of the agglutination tests. Such cultures are reported only if found positive.

Dried blood specimens are not satisfactory for accurate agglutinin determinations and will not be accepted for examination.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

HEALTH OF THE SCHOOL CHILD

The family physician has an active and a most important part to assume in the health of the school child. Indeed he has a decided role in the health of all children. He, as well as the health worker, should look upon the child as an individual with many changing needs. These may be observed as physical, social, mental, emotional and economic. We professional people may emphasize the health needs of the individual but must not be blind to the complexity of the human being with whom we are working. For example, in a child who has a defect to be corrected, such as the removal of tonsils, there is more to be done than the mere operation. There may be a certain amount of "parent education" needed. The child may need to change his way of living in order to realize to the fullest his potentialities. There may be the need for teaching health habits that will function through the child's life.

The physician more than any other person should realize that the child must learn to care for his body early in life. This cannot be learned through following the same kind of program the teacher is prepared to follow for grammar or history. It must be learned as a way of living, and involves the advice and guidance of all who serve the child. There must be understanding of what he should eat, how he should exercise and rest,

and how to perform all of the daily habits of healthful living. We know that daily habits alone will not guard against such conditions as appendicitis, rheumatic fever, pneumonia or cancer. The physician can teach how to make important decisions which so often determine the well-being of the individual. He can advise regarding commercial advertising of any type of "cure alls," the charlatan, superstition, and prejudice. The physician can and should be the medical adviser in all the school health program which teaches the child how to care for his body.

The physician has a more active part in the health of the school child than merely advising care for the individual. The teacher and parents will need counsel that they may guide the child in healthful living; how they can assist in providing a healthful environment; how they can care for accidents and sudden illness; how they can aid in the control of communicable diseases. They need to know the limitations and values of the school medical examination and the importance of obtaining the attention needed for children with physical defects or in need of medical care. Physicians should explain that the partial or limited medical examination made by the health officer is to discover the children most likely to be in need of medical attention.

We have been giving consideration largely to the physical health of the school child. We may well ask the question: Should not mental hygiene—the establishment of proper behavior habits—be included in any comprehensive school health program? It is true that to promote a really modern mental hygiene program calls for the employment of expert personnel. Nevertheless, the family physician who has plenty of patience and the interest of the individual uppermost in mind may be privileged to render worth-while service in many cases that present behavior problems. There are many conditions that present signs which should lead to investigation and study. Teachers, health workers, parents and physicians can combine their efforts to detect and correct many behavior problems that if allowed to go unchecked may lead to more serious difficulties later in the child's life. Some of these signs are (1) undue restlessness, nervousness and fidgeting, (2) inability to concentrate or hold the attention for more than a few minutes, (3) marked shyness and timidity, (4) undue si-

lence and moodiness, (5) stubbornness and sulking, (6) special and unaccountable fears, (7) temper tantrums, (8) inability to mingle with other children or cooperate in group work, (9) habit spasms, tics and twitching, (10) persistent stealing or lying, (11) habitual truancy, (12) excessive cruelty to other children or animals, (13) open or flagrant sex habits, (14) persistent disobedience, and others. Many of these may be looked upon by some as little irregularities that will right themselves, especially if dealt with by the good old fashioned "rod" method. This method has failed in too many instances to apply it universally and expect uniformly good results. These little irregularities are so often forerunners of such mischief as neurosis, eccentricities of behavior, insanity and crime it is of utmost importance that they be given careful study.

The health officer, nurse nutritionist, physical educator, dentist, physician, and all specialists contributing to the health program of the school child must coordinate their efforts and establish professional guidance in order that the whole program of the school may be vitalized to guide the child in the mental and physical care of his body. When this is done we may confidently look forward to improvement in the health of the school child in Alabama.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

DIAGNOSTIC FACILITIES FOR TUBERCULOSIS

The diagnosis of tuberculosis includes, of course, consideration of symptoms and findings of physical examination, but embraces also certain other procedures. Tuberculin testing, sputum examination and x-ray examination all have their place and frequently all available procedures must be employed.

The State Health Department through its laboratory division provides free sputum examination and also distributes free tuberculin for tuberculin testing. Through its diagnostic clinics the Health Department has also been making available x-ray examination and consultation services to the medical profession. This clinic service has been in operation for some eight years at present

and has done much to fill the need in this field. With only one unit in service, however, it was not possible to visit the average county oftener than every six months so that early examination of suspect cases could not always be attained.

With the expansion of hospital service throughout the State, however, there has been a corresponding expansion of x-ray and consultation facilities. Most of the sanatoria, in addition to caring for their in-patients, make provision for outpatient examinations. The Morgan County Sanatorium at Flint, the Tri-County Sanatorium at Scottsboro, the Etowah County Sanatorium at Alabama City, the Susie Parker Stringfellow Memorial Hospital at Anniston, and the Montgomery County Sanatorium, at Montgomery, each hold a weekly clinic so that they are doing much of their own case finding. Jefferson and Mobile Counties also provide diagnostic service and the East Alabama Health District services the group of counties comprising that area.

As a result there is available in a large area of the State immediate diagnostic facilities. At the same time the clinics operating out of the State Health Department are enabled to visit the remaining counties at more frequent intervals so that individuals who cannot afford x-ray examination can be taken care of at an earlier date. Early diagnosis is the keynote in any tuberculosis program and facilities in Alabama are better today than at any previous time although still grossly inadequate.

DIAGNOSIS OF SYPHILIS

Several articles have been written recently concerning the diagnosis of syphilis after one positive blood test, without the patient showing any evidence of infection nor giving any history of infection. One positive test without any other confirmatory signs or symptoms of syphilis does not make a diagnosis of syphilis. It does, however suggest a repetition of the test in order to rule out a false positive and to help establish a diagnosis. To make a diagnosis of syphilis on one test which was reported as doubtful is, quite possibly, falsely labeling a patient as syphilitic. Blood tests reported as doubtful should always be repeated several times before any interpretation is considered.

W. H. Y. S.

BUREAU OF SANITATION

G. H. Hazlehurst, C.E., M.C.E., Director

PERMANENT DITCH CONSTRUCTION

The value of permanent ditch construction was clearly established during the construction of the Panama Canal. The Americans, benefiting from the mistakes of the French Government, demonstrated for the first time that malaria can be controlled over a reasonably large area and that permanent structures can be utilized for the complete elimination of *Anopheles* mosquitoes. American engineers have grasped this vision of mosquito control more firmly within the last few years. The British Government began permanent ditch construction in their densely populated areas immediately after the Panama Canal demonstration.

Here in Alabama some of the municipalities are beginning to realize the value of a type of ditch that can be maintained at a minimum cost and will accomplish the desired results.

The inauguration of a ditch construction program may be linked with that of developing a highway system. At first the highways were mere trails through the forest. These trails accomplished the purpose for which they were intended. As the density of population of the area increased, transportation increased and an improved highway system was demanded. Following the development of transportation equipment the highway authorities began to look to a type of highway that would have a minimum annual cost computed over a period of about twenty years. From this came the development of our present system of hard surface highways.

In many sections of the State the present drainage system falls in the same category with the highway trails. The first approach in attacking the malaria problem would be to utilize all funds on the least expensive type of ditch construction and drain as many *Anopheles* producing areas as possible, thereby protecting the maximum number of people. Like the highway system that consists of primary, secondary, and tertiary roads, all of which serve a purpose, ditches too have their classification. The initial cost, operation, type of area served, and benefits to be derived per dollar spent are essential factors to be considered in the selection,

alignment, grade, size, and improvement of ditches.

In certain instances, especially in densely populated areas and municipalities where the pioneer work in constructing the drainage system has been accomplished, thought should be directed to a more permanent solution of the problem. A majority of the towns have eliminated the ponded area within a mile of the city limits and practically all of the *Anopheles* mosquito production is occurring in the improperly maintained drainage system. For any drainage system to function as it was originally constructed, operation and maintenance are required. This is true of all man-made structures by provision of nature. The paving or lining of the ditches with an impervious material and sodding the banks will greatly increase the efficiency of the ditches, as well as reduce the cost of maintenance. The first cost of the construction may seem rather excessive. However, a complete analysis of the problem, taking into consideration the results to be obtained, might indicate an improved type of ditch to be more satisfactory and economical.

At present the following municipalities are doing permanent ditch construction: Geneva, Elba, Andalusia, Brewton, Flomaton, and Hartselle. Several other municipalities will begin programs in the near future.

In counties where the state-wide malaria control project is operating, WPA labor may be used in permanently lining ditches of a malaria control aspect. The only cost to the municipalities would be the cost of materials. The materials commonly used are cement, sand, gravel, bricks, and stone or broken concrete slabs for riprapping.

At this time it would not be economically feasible to try to permanently line all of the drainage ditches in a municipality. However, as a demonstration project, a few hundred feet of this type ditch should be constructed.

NEXT MEETING OF THE
ASSOCIATION
MONTGOMERY
APRIL 18-20, 1939

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	1938		Estimated Expectancy Sept.
	August	Sept.	
Typhoid	79	65	98
Typhus	38	42	36
Malaria	1017	1213	1249
Smallpox	0	3	1
Measles	53	59	20
Scarlet fever	40	61	116
Whooping cough	162	77	75
Diphtheria	93	155	225
Influenza	65	76	28
Mumps	28	13	19
Poliomyelitis	8	15	10
Encephalitis	4	3	3
Chickenpox	3	6	7
Tetanus	9	6	5
Tuberculosis	237	221	284
Pellagra	35	32	35
Meningitis	4	9	5
Pneumonia	96	115	60
Syphilis	1847	1713	292
Chancroid	6	7	5
Gonorrhea	274	245	192
Ophthalmia neonatorum	1	0	1
Trachoma	1	0	0
Tularemia	1	0	0
Undulant fever	14	8	2
Dengue	0	0	0
Amebic dysentery	0	1	0
Rabies—Human cases	0	0	0
Positive animal heads	40	40

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

Meeting of the Southeastern Division of the Association held at Jordan Dam, above Wetumpka, October 13, with Vice-President, Dr. C. P. Hayes presiding, was addressed by Drs. J. P. Chapman, Selma, "Evaluation of Diseases of the Colon"; D. C. Donald and T. M. Boulware, Birmingham, "Surgery of Undescended Testes" and "Puerperal Sepsis," respectively; Edgar Fincher, Wm. A. Smith, Henry Poer and Thomas S. Claiborne of Atlanta; and Mr. Thomas W. Martin of Birmingham.

The Elmore County Medical Society was host to the division.

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The 49th annual convention of the Association of Life Insurance Medical Directors of America was held at the Hotel Pennsylvania, New York, October 20 and 21.

* * *

Dr. Seale Harris, Sr., President of the Association, and Dr. J. S. McLester participat-

ed in the third annual meeting of the Gulf Coast Clinical Society held at Pensacola, October 6 and 7.

* * *

Application for admission to the written examination scheduled for February 4, 1939 by the American Board of Obstetrics and Gynecology must be filed on an official application form in the office of the Secretary at least sixty days prior to this date (or before December 4, 1938).

The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Application for admission to Group A examinations must be on file in the Secretary's Office before April 1, 1939.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Bldg., Pittsburgh, Pa.

* * *

The first American Congress devoted to a consideration of medical, nursing and other problems associated with human reproduction will be held in Cleveland, Ohio, from September 11 to 15, 1939, inclusive. It will be designated as The American Congress on Obstetrics and Gynecology. The promotion and sponsorship of The Congress has been delegated to the American Committee on Maternal Welfare, Inc.

The purpose of this Congress is to afford opportunities for discussing and publicising the problems associated with human reproduction and the health of women and new born babies. The value of more generally disseminated knowledge about the processes and problems of human reproduction and of the special diseases of the female generative organs and the new born is important in the maintenance of public health and therefore the interest of woman's welfare extends not only to the medical profession but to associated groups, including nurses, public health officials, hospital administrators, eugenisists and many others.

* * *

Dr. Claud D. Johnson announces the opening of his office, for the practice of obstetrics and gynecology, in the Bell Building, Montgomery.

Plans are in the making for a Symposium on Mental Health to be presented before the Section on Medical Sciences of the American Association for the Advancement of Science at Richmond, Virginia, December 28-30, 1938. Collaborating in the enterprise are the American Psychiatric Association (an affiliated body of the A. A. A. S.), the United States Public Health Service, the Mental Hospital Survey Committee (composed of eight national medical bodies), The National Committee for Mental Hygiene, and a special committee of eminent psychiatrists who are developing the program for the symposium under the chairmanship of Dr. Walter L. Treadway, Assistant Surgeon-General of the Public Health Service in charge of mental hygiene activities.

The symposium will provide an unusual opportunity to bring the great problem of mental health before the forum of the A. A. A. S. and, through it, to the scientific and lay public of America. Its object will be, essentially, to bring about a synthesis of our present knowledge of the problem in all its ramifications, to evaluate past experience, to crystallize aims and objectives, and to marshal the scientific forces of the nation for a concerted and coordinated attack on mental disorders and disease. It will be the first time in the history of American psychiatry and the mental hygiene movement that the subject has received the special attention of this great scientific body as a major topic on its agenda.

Members of the program committee of the symposium, besides Chairman Treadway, are: Clarence M. Hincks, M. D., General Director, The National Committee for Mental Hygiene; Nolan D. C. Lewis, M. D., Director, New York State Psychiatric Institute and Hospital; Franklin G. Ebaugh, M. D., Director, Colorado Psychopathic Hospital; Harry Stack Sullivan, M. D., President, William Alanson White Psychiatric Foundation; Abraham Myerson, M. D., Director of Research, Boston State Hospital; Joseph Zubin, Ph.D., U. S. Public Health Service; Samuel W. Hamilton, M. D., Director, Mental Hospital Survey Committee; Grover Kempf, M. D., U. S. Public Health Service; Roscoe Hall, M. D., Clinical Director, St. Elizabeth's Hospital; James S. Plant, Director, Essex County (N. J.) Juvenile Clinic; Malcolm H. Soule, Ph.D., Secretary, Section on Medical Sciences, A. A. A. S.; and Paul O. Komora, As-

sociate Secretary, The National Committee for Mental Hygiene. Communications should be addressed to Symposium on Mental Health, American Association for the Advancement of Science, Room 822, 50 West 50th Street, New York City.

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Dr. J. B. Graham, formerly of Talladega, is now located at Atmore.

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Dr. H. E. Barker, at one time Health Officer of Bullock County, is practising at Boaz.

Book Abstracts and Reviews

Surgical Pathology. By William Boyd, M. D., LL.D., M. R. C. P. Ed., F. R. C. P. Lond., Dipl. Psych., F. R. C. S. Professor of Pathology, University of Toronto. Fourth edition, thoroughly revised. 886 pages with 476 illustrations and 15 colored plates. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$10.00 net.

Boyd's pathology was written to serve as a handbook for the surgeon and internist and as a guide to beginners in medicine. It is therefore brief and practical and does not attempt to include the whole field of pathology. Experts may find little new in it but as a textbook or for quick reference it is an outstanding volume. Of particular interest is the chapter on tumors. The microscopic reproductions are exceptionally good, the gross pathological illustrations of mediocre quality. The author has a pleasing, rapidly moving style that reads like an exact duplication of his conversation.

The first eleven chapters deal with general pathology, upon gangrene, infection, vascular accidents and tumors. The remainder of the book deals with pathology of various organs.

The new edition includes the following new subjects: lymphogranuloma venereum, grading of malignant tumors, parathyroid tumors, regional ileitis, ureterocele, tumors of the Islands of Langerhans, arrhenoblastomas, etc. New material has been included in the section on etiology of tumors, mesenteric thrombosis, carcinoma of the tongue, etiology of appendicitis, renal carbuncle, pathogenesis of renal calculi and the relation of chronic mastitis to carcinoma of the breast.

C. K. W.

Endocrine Therapy in General Practice. By Elmer L. Sevringhaus, M. D., F. A. C. P. Professor of Medicine, University of Wisconsin; Editor, Department of Endocrinology, The Year Book of Neurology, Psychiatry and Endocrinology. Chicago: The Year Book Publishers, Inc., 1938. 192 pages. Price \$2.75.

The field of endocrine medicine is one that is constantly changing in its concepts and one that is becoming more and more allied to the practice of medicine and its specialties. The author, cognizant of these facts, has written a compact volume to assist the physician to prescribe more rationally as well as successfully those potent products derived from the glands of internal secretion. No attempt has been made to include the numerous refine-

ments which will be of interest to those who give special attention to endocrine treatment and diagnosis.

The volume contains chapters on each endocrine gland. The functions of the various glands are discussed in brief. The diagnosis, therapy and preparations available for treatment, as well as the prognosis of the various endocrine disorders, are given.

References to recent works on endocrinology are supplied at the end of chapters for those who wish to read further on the subject. There are photographs of actual cases illustrating various types of endocrine disorders.

The chapter on diabetes is the longest in the book. The modern advances in the treatment of this disease are well covered and this chapter should prove of much value to the practitioner who handles diabetics.

Of particular interest are those chapters dealing with the anterior pituitary and the ovaries, and the chapter on obesity.

The general practitioner and student interested in endocrine therapy will find this volume a valuable and handy reference. For those who wish to delve more deeply into the subject, the monographic treatises on the individual glands and diseases concerned are recommended.

D. B. M.

The Control of Syphilis and Other Infectious Diseases. By Thorwald Madsen, M. D. Director of the State Serum Institute of Denmark. Copenhagen; Chairman of the Health Committee of the League of Nations. The Williams and Wilkins Co., Baltimore, Md., 1937. 216 pages. Cloth \$3.00.

The 1937 Abraham Flexner Lectures at Vanderbilt University were given by Dr. Madsen. The five lectures that were delivered make up the contents of this book.

The control of venereal diseases in Denmark is probably due primarily to suitable and adequate legislation that gives easy access to free treatment of these maladies. Denmark was the first country to adopt legislation for dealing with their spread. Other factors influencing the control of these diseases is the Dane's respect for law; the use of modern treatment and confidence of the patients in their doctors.

The chapter on mechanism of bacterial infection is admirably presented and the comprehensive investigations are extremely interesting and factual. It is interesting yet important to know where organisms are deposited if they are injected into the blood stream or ingested orally. It is worth while knowing the mechanism of bacterial infection in actively immunized animals.

Tuberculosis has been known for a long time in Denmark. Treatment and prevention of spread of tuberculosis was begun as early as 1870. Treatment since 1905 has been free to persons earning \$900 a year or less. Financial aid is given to the family as long as the bread winner is under hospital care. If it is necessary to board out children, the public defrays this expense too. The Social Care Acts give all needy tuberculosis patients and families full maintenance for the first three months after discharge from the institution. Tu-

berculosis has gradually declined since 1880. Tuberculin positive reactors are better protected against subsequent infections than are the tuberculin negative reactors. Therefore, Dr. Madsen believes in control by vaccination in certain cases.

The chapter on the influence of seasons on infection is not only interesting but enlightening. The seasonal swing of diseases is probably not due to increased virulence of the organisms but it is probably due to changes in the tissues as the result of fluctuation of sunlight. These changes make themselves known by resistance or susceptibility to disease.

The last chapter deals with whooping cough. The Danish physicians are convinced of the usefulness of whooping cough vaccine but it produces protection for a period of one to two months only.

This book is recommended as excellent, interesting and instructive reading for all physicians.
W. H. Y. S.

Practical Microbiology and Public Health. By William B. Sharp, S. M., M. D., Ph. D. Professor of Bacteriology and Preventive Medicine in the Medical Department of the University of Texas; Visiting Bacteriologist of John Sealy Hospital, Galveston; Supervisory Bacteriologist of Galveston Health Department. The C. V. Mosby Company, St. Louis, Mo., 1938. Cloth, illustrated, 492 pages. Price \$4.50.

"This handbook is designed to aid the student in organization, interpretation and systematic record of data from laboratory and field."

In the opinion of the reviewer this book would fail utterly in thus aiding a student. As a laboratory manual to accompany a particular set of lectures it might serve satisfactorily but as a guide for practical exercises without the lectures it would be of little value.

Numerous errors in fact have been noted, as, for example, in the implication that type A Cl. botulinum alone causes limberneck in chickens, that the toxin of Cl. tetani travels up the motor nerves and that the dysentery bacilli are classified in the genus Eberthella.

The choice of exercises to illustrate many points is by no means the best possible. Outside the classroom of the author there would seem to be little space for this volume.
S. R. D.

Textbook of Bacteriology. By Thurman B. Rice, A. M., M. D. Professor of Bacteriology and Public Health at the Indiana University School of Medicine. Second edition, revised. 563 pages with 121 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$5.00 net.

Though termed a shorter textbook of bacteriology, this book contains 500 pages of very practical information—really all the fundamentals for the study of bacteriology by medical students. It is also of value to physicians interested in bacteriology but not devoting their full time to laboratory work. The technical data are presented in such simple language that the physician or student could easily perform the procedures described. In bringing the book up-to-date the author has included chapters describing the typing of pneumococci, sulfanilamide therapy, tetanus alum-toxoid and other subjects of equally practical value. The illustrations are especially clear.
A. T.

What's Wrong With Me? By H. Ameroy Hartwell, M. D., Fellow of the American Medical Association and of the New York Academy of Medicine; Member of the Medical Society of New Jersey, the Hudson County Medical Society, etc. Cloth. Price, \$1.00. Pp. 246. Garden City, New York: Country Life Press, 1938.

"With sentiments of high regard and esteem, this volume is affectionately dedicated to all workers engaged in the amelioration of human suffering," but intended largely for the lay reader as evidenced by the author's admonition: "If you have the symptoms enumerated in five or more lines under any of these diseases, you may conclude that you are probably suffering from that disease; but verify your opinion by consulting your physician in time to establish a correct diagnosis by his physical findings."

Nearly two hundred diseases are dealt with in limited space, rarely more than a page and a quarter being allotted each entity—abortion to yellow fever—a brevity resulting from careful screening, and inclusion of facts under three headings: definition, symptoms and cause.

Question arises, of course, as to what phobias may afflict a layman already given to introspection when he reads of Buerger's disease or sinusitis; and an answer is not immediately available. Certainly it can be said that what he gathers from the volume will be authentic, and should direct him to a physician for an appraisal of his physical resources—and liabilities.

The reviewer is not convinced "What's Wrong With Me?" will not be helpful also to the medical student and the practising physician. It is hoped neither will notice the use of the word tubercular where tuberculous was intended.
D. L. C.

Interns Handbook. By Members of the Faculty of the College of Medicine, Syracuse University, under the direction of M. S. Dooley, A. B., M. D., Chairman of the Publication Committee. Second edition, revised and reset. Cloth. Price, \$3.00. Pp. 523, illustrated. Philadelphia, London and Montreal: J. B. Lippincott Company, 1938.

How true it is, as the authors state, that "the intern is constantly meeting new situations fraught with possibilities of dangerous mistakes, for which he is ill-prepared. The first edition of the 'Interns Handbook' was a modest experimental effort at lessening this ever-present difficulty in medical education. The problem was how to equip the intern with information for meeting emergencies without either writing a textbook or unwittingly making him a compend addict"; and the problem has been solved admirably.

It is not an easy matter to bring so many things of importance within the scope of a comparatively small reference work, and yet this has been accomplished by a generous contribution of "time and talent in weighing the merits of every inclusion."

Is there a question regarding medical jurisprudence, or procedure to be used for the determination of blood sugar by the Folin-Wu method, or metabolic disturbances, or allergy, or diet, or drugs? The Handbook answers it and a thousand and one other questions.

The volume is commended for its accuracy and its briefness; and is recommended to interns and practising physicians alike.
D. L. C.

The Spectacle of a Man. By John Coignard. Cloth. Price, \$2.50. 252 pages. New York: Jefferson House, Inc., 1938.

This book, described by its publishers as "the first novel to dramatize the technique of psychoanalysis," begins with a letter dated September 6, 1934, and ends with one dated December 10, 1935. The same person, Arnold Harvesting, is the author of both of these letters and also of the numerous others that are to be found here and there on the intervening pages. He is, as one might naturally assume, the hero, and the book is a narrative of this man's effort, with the aid of a psychoanalyst, to overcome the baffling handicap of extreme self-consciousness and a marked tendency to stammer, which often go together.

The psychoanalyst-author, who hides his identity under a pen name, has attempted to make psychoanalysis popular by turning a case history into a novel. The result is pleasing, on the whole, although there are spots here and there where the reader feels strongly that the novel has temporarily entered a state of suspended animation and that he is studying, for the moment, a learned but learnedly uninteresting case report. At times he feels that he is even doing more than that, that he is floundering rather bewilderedly in a bottomless pit of discussion of the mechanics of this new science. In fairness to the writer, however, it should be added that these detailed discussions come but rarely.

As might be assumed from the dates of the afore-mentioned two letters, all the action of the narrative takes place within a period of about fifteen months, and this action is mainly in the emotional, or mental, rather than the physical, realm. That first letter tells Dr. Coignard about Harvesting's handicap and his lack of interest in the society of others until he met the woman to whom he refers throughout the book simply as Mary. She gives him a new interest in life. She doesn't mind his stammering. He forgets his self-consciousness in her presence and, through the new confidence she gives him in himself, no longer dreads the company of others. She impresses him, and also the reader, as a woman of unusual intellectual gifts. He falls in love with her, and that means the pangs of jealousy, for she refuses to give up her other men friends and marry him. Not at first at any rate. Many pages are devoted to their quarrels. Occasionally they quarrel so violently that they stop seeing each other, and their normally frequent telephone conversations come to an end. After such quarrels each impatiently waits for the postman and listens for the telephone, hoping the other will weaken and take the essential first step toward reconciliation. One does, eventually, every time until the book approaches its end. Finally Harvesting meets Margot Marple, superior in many respects to Mary, with whom he has been spending considerable time between lovers' tiffs on a man-and-mistress basis. In one of these quarrels, he informs Mary that he no longer wishes to marry her, that he is convinced their marriage would prove a great tragedy for both of them. Pride-wounded and disappointed, she realizes that she has loved him all along and has intended all the time to yield eventually to his entreaties and marry him. It is

hard for her to realize that he has really changed. In vain she promises to give up her other gentlemen friends, if he will marry her—not at once necessarily, but eventually. But his mind is made up, and it is a mind of steel. Mary cuts a pretty pathetic figure, with her tears and her pleadings. In time she manages to get some kind of a grip on herself but to the last she impresses the reader as a woman suffering from one of those major tragedies that leave a permanent imprint. In the end Harvesting marries Margot.

There is much more to the book than is revealed by this brief resume' of its plot, of course. There are descriptions of long talks between the author and Harvesting. There are many references to dreams as revelations of hidden hopes and desires. There are frequent flash-backs to Harvesting's mother and father and the effect of their unhappy married life upon his own mental conditioning. There are, in brief, many reminders that this is not only a novel, but also a sort of left-handed textbook of psychoanalysis.

Even those who care little for this particular branch of science can read Dr. Coignard's book with pleasure, however. It can also be read with considerable profit. J. M. G.

History of the Human Teeth. By Cleveland Sylvester Simkins, Ph. D., Associate Professor of Anatomy, University of Tennessee Medical School. Cloth. Price, \$4.00. 329 pages, with 111 illustrations. Philadelphia: P. Blakiston's Son and Company, Inc., 1937.

The author has presented in an attractive and thoroughly scientific manner the theories of approach to the dentition of modern man. Every medical and dental student would profit by studying this book.

The introduction of comparative dental anatomy is made in a way that does not make the study dull, but rather makes one try to read ahead of the author.

Beginning with the ostracoderm form of the Pisces group, continuing with the Tetrapods, then the Trituberculates in the Jurassic age. Then the dryopithecus is developed into the Pithecanthropus form in the early Pleistocene. The Neanderthal man is followed by Cro-Magnon in the late Pleistocene age, then the modern form of *Homo sapiens* is in evidence.

Not only is the modern tooth traced from the simple placoid scale but the changes in the manner of the attachment of the tooth to the jawbone has been traced. The enamel, dentine and cement have shown similar gradual changes which the author has pointed out were made to adjust the dentitions to their present needs.

The shapes of the teeth exhibited modifications of herbivorous and carnivorous dentitions as well as the long, sharp teeth of the insect eaters.

One of the many outstanding features of Dr. Simkins' book is the concise and simple method of presenting the dentitions of the many different forms. For example, the dentition of modern man is quickly and clearly described as: I 2/2 C 1/1 P 2/2 M 3/3. (Two upper and two lower incisors; one upper and one lower cuspid; two upper and two lower premolars; three upper and three lower molars on each side of the median line of the face.) R. T. C.

Truth About Medicines

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Phenobarbital—The Upjohn Company.—A brand of phenobarbital-U. S. P. (New and Nonofficial Remedies, 1938, p. 123). It is marketed in the form of tablets $\frac{1}{4}$ grain, $\frac{1}{2}$ grain and $1\frac{1}{2}$ grains, and supplied in both green and white tablets. The Upjohn Company, Kalamazoo, Michigan.

Staphylococcus Mixed Vaccine.—A suspension of strains of *Staphylococcus aureus* and *albus* in physiological solution of sodium chloride preserved with 0.5 per cent phenol, containing 1,000 million killed organisms of *Staphylococcus aureus* and 1,000 million organisms of *Staphylococcus albus* to each cubic centimeter. Marketed in packages of 1 cc. ampules and 5 cc. and 20 cc. vials. The Upjohn Company, Kalamazoo, Michigan.

Typhoid Vaccine.—This bacterial vaccine made from the typhoid bacillus (New and Nonofficial Remedies, 1938, p. 429) is also marketed in vials of 50 cc. containing 1,000 million killed typhoid bacilli per cubic centimeter. The Gilliland Laboratories, Inc., Marietta, Pa.

Typhoid Vaccine.—A bacterial vaccine made from the typhoid bacillus (New and Nonofficial Remedies, 1938, p. 429) marketed in packages of three 1 cc. ampules, one containing 500 million and two containing 1,000 million killed typhoid bacilli each suspended in physiological solution of sodium chloride and preserved with 0.5 per cent phenol. The Upjohn Company, Kalamazoo, Michigan.

Typhoid Combined Vaccine (Prophylactic).—This bacterial vaccine made from the typhoid bacillus and the paratyphoid "A" and "B" bacilli (New and Nonofficial Remedies, 1938, p. 431) is also marketed in packages of one 20 cc. vial containing 1,000 million killed typhoid bacilli, 500 million killed paratyphoid A bacilli and 500 million killed paratyphoid B bacilli per cubic centimeter. Lederle Laboratories, Inc., Pearl River, N. Y.

Typhoid Paratyphoid Mixed Vaccine.—A suspension of typhoid bacillus and the paratyphoid "A" and "B" bacilli in physiological

solution of sodium chloride preserved with 0.5 per cent phenol (New and Nonofficial Remedies, 1938, p. 431). Marketed in packages of three 1 cc. ampules, one ampule containing 500 million killed typhoid bacilli and 375 million each of killed paratyphoid A and paratyphoid B bacilli, and two ampules each containing 1,000 million killed typhoid bacilli and 750 million each of killed paratyphoid A and paratyphoid B bacilli. The Upjohn Company, Kalamazoo, Mich. (J. A. M. A., Sept. 24, 1938, p. 1187).

PROPAGANDA FOR REFORM

Adlanco W-73 Two-Tube Ultratherm Not Acceptable.—The Council on Physical Therapy reports that the Adlanco W-73 Ultratherm is intended solely for medical use. It is similar to the Council accepted Model G Ultratherm (The Journal A. M. A., Nov. 14, 1936, p. 1636) except for a certain difference in wiring owing to the use of two tubes in place of one. The unit was investigated in a clinic acceptable to the Council and rendered satisfactory service. It appears to be as efficient as the average device of this type. However, no evidence was submitted by the firm to substantiate the efficacy of the unit in heating the deep muscle tissues of the living human thigh, although such information was requested and ample time given to obtain these data. Since the firm has not fulfilled the requirements for acceptance and has circulated advertising matter which contains misleading, unwarranted or exaggerated statements, the Council voted not to accept the Adlanco W-73 Two-Tube Ultratherm for inclusion in its list of accepted devices. However, the Council will give the unit reconsideration without prejudice when the requirements and the official rules have been met. (J. A. M. A., Sept. 3, 1938, p. 935).

Physical Therapy in the Treatment of Fractures.—In a report authorized for publication by the Council on Physical Therapy Dr. Frank D. Dickson states that the widespread mechanization of industry, the increase in the employment of machinery in agriculture and the tremendous growth in the use of the automobile have completely changed the fracture picture in the United States in recent years. The effectiveness of fracture treatment today cannot be based solely on securing union of the fractured bone or bones, for the rapidity with which the individual is returned to work and the

extent to which function is restored must also be taken into consideration. Today, when we are dealing with more serious and more complicated fractures than in the past, a successful end result is dependent not only on adequate immediate treatment of the fracture but also on carefully planned and supervised after-care. Physical therapy, properly and intelligently employed, can be of inestimable service in this period of after-care in hastening recovery, but it is equally true that if physical therapy is used as a part of a routine without a true understanding of its purpose it may be a detriment rather than a help and even actually prolong the period of convalescence by inculcating in the patient a belief that recovery is to be attained by physical therapy alone and without effort on his part. Broadly speaking, there are four basic forms of physical therapy which may be employed in the treatment of fractures to accomplish the purposes catalogued; they are heat, massage, exercise and muscle stimulation. Used intelligently in the postreduction period physical therapy will reduce scar tissue, infiltration of muscles, tendons and joints, maintain a satisfactory state of the circulatory apparatus and greatly reduce the period of after-treatment. Properly employed in the after-treatment it will help the patient to do his part, which is building up that voluntary active use of the impaired extremity which alone can restore function, hasten his recovery and complete the cure. (J. A. M. A., Sept. 10, 1938, p. 1016).

Pathologic Effects of Elixir of Sulfanilamide (Diethylene Glycol) Poisoning: A Clinical and Experimental Correlation: Final Report.—In a report by E. M. K. Geiling and Paul R. Cannon, published under the auspices of the American Medical Association Chemical Laboratory, the similarity between the clinical course and pathologic picture of the fatal human cases and that observed by these investigators in experimental animals affords conclusive proof that the chief toxic agent in Elixir of Sulfanilamide was the diethylene glycol. They showed this substance to have a cumulative effect. Evidently the time interval between doses and the concentrations in which the elixir was recommended for human use exceeded the capacity of the body to handle the drug without producing serious injury. Experiments are now in progress to determine the manner of excretion and the levels at which

different species of animals can handle diethylene glycol. The fact that increasing numbers of new chemicals are being introduced into therapeutics serves to direct attention anew to the necessity of adequate toxicologic studies on such compounds which are to be used in medical practice. It is only by precautions of this sort that future tragedies similar to the elixir episode will be avoided. In the examination of a drug with a view to its use in therapeutics, the following conditions are essential: 1. If at all possible, the exact composition (qualitative and quantitative) should be known; or, if not obtainable, the detailed method of preparation of the product. 2. Acute toxicity studies on a sufficient number of laboratory animals of different species should be made. 3. Chronic toxicity experiments at varying dosage levels and with different species must be performed in order that any possible cumulative effect of the drug may be noted. 4. Careful and frequent observations of the animals are necessary, so that a composite picture of the clinical course is available. 5. Careful pathologic examination of the tissues with appropriate stains is necessary. 6. Effects of the drug on animals with experimental lesions of various important excretory or detoxifying organs, especially of the kidneys and liver, should be studied. 7. The rate of absorption and elimination of the drug, its path and manner of excretion, and the concentration levels in the blood and tissues at varying times after administration must be determined. 8. The possible influence of the presence of certain foodstuffs or drugs should be noted. For example, magnesium sulfate should not be administered to a patient undergoing treatment with sulfanilamide. 9. Careful examinations for idiosyncrasies or untoward reactions should be made. Many human lives have been sacrificed by the failure to meet the standards of these preliminary tests and many more lives will be sacrificed if such standards are not put into effect. Any essential compromise with these requirements will inevitably exact a toll of deaths or injuries among the public. The life and safety of the individual should not be subordinated to the competitive system of drug exploitation. The Elixir of Sulfanilamide catastrophe should once again serve as a warning to physicians who so readily prescribe unofficial drugs. (J. A. M. A., Sept. 3, 1938, p. 919).

Miscellany

SQUIBB INSTITUTE FOR MEDICAL RESEARCH

Described as "the finest and most complete of its type in the scientific world," the new \$750,000 laboratory building of the Squibb Institute for Medical Research at New Brunswick, N. J., which was dedicated on October 11, combines architectural beauty with the most modern developments in methods of construction and use of materials.

Designed by Sherley W. Morgan, professor of architecture at Princeton University, the building is U-shaped with a three-story main unit flanked by side wings of two stories each. Usable floor space aggregates 52,000 square feet. Provision has been made for the immediate utilization of 100 rooms, seventy of which are individual laboratories and offices.

"The design and selection of construction material," according to those in charge of construction for E. R. Squibb and Sons, founders of the Institute, "was governed by two considerations:

"First, to be as modern and functional as the activity inside the building suggested, and as modern as the dignity and importance of the edifice permitted.

"Second, to be as progressive in the use of new construction, materials, methods and equipment as was compatible with the most recent experience and at the same time satisfy the highest standards set up for safety and durability."

A conventional structural steel framework erected on concrete footings reaching down to the rock-like Jersey red shale was employed. Hollow ceilings were created in all rooms and corridors destined to house all piping and duct work required to service and air-condition the finished building. A box beam type steel flooring forms the base for the concrete floors, out of which rise the partition walls. Glazed terra cotta tile of a pleasing color and texture was used from floor to ceiling to allow complete washing and hosing and to eliminate the nuisance and expense connected with frequent repainting. The doors throughout the building are of hollow steel.

"Special study was devoted to the outside walls," Mr. Nitardy explains. "It was nec-

essary to construct them with a very high insulating value and as tight as possible to eliminate undesired air infiltration. Consequently, the use of fourteen-inch thick walls and evacuated glass brick windows was decided upon.

"As outside facing, a quite recent development of large concrete slabs with sparkling exposed aggregate was agreeably combined with the glass brick windows to form the handsome and imposing facades of the building, which in their quiet modern dignity of line are equally far removed from the styleless recent past as from the excesses of the modernistic school.

"To air-condition a building of this type presented a unique problem. Unfailing dependability in summer and winter was the predominant requirement. Many rooms have to be maintained at exact and unvarying degrees of temperature and humidity all year round. It was, therefore, decided to employ a system using methods and principles longest and most successful in operation. Failure of the equipment or of vital parts thereof could easily result in the loss of large amounts of valuable materials or, if nothing else, render valueless the work of many weeks by upsetting the test conditions.

"Consequently, the best standard air-conditioning system which could be devised was installed. The machinery alone occupies a floor space of 2,800 square feet in the basement, and a total of more than 200 horse power in electric motors is required to keep it operating under maximum load. During the recent prolonged heat waves, the system performed most satisfactory."

Services of every kind had to be made available for almost every room. An intricate system of pipes and conduits in the false ceilings of the rooms and corridors developed.

Hot and cold water, distilled water, steam and steam return, compressed air and vacuum, gas and electricity, sewer and vent connections had to be carried to and from every laboratory room and into the bottom of all laboratory center and wall tables. No piping is exposed and only cocks and faucets on top of the laboratory furniture indicate the presence of these services. Copper tubing was used throughout for all services except for steam gas and distilled water. The latter is conducted in special block-tin lined brass piping.

A fully automatic passenger and freight elevator will be operated. A complete system for the production and distribution of high grade distilled water is another feature.

Since only non-combustible material is used in the construction of the whole building, all steel laboratory furniture is utilized to make the building completely fireproof. In addition there is a sprinkler system concealed in the false ceilings, with only the sprinkler heads protruding from the ceilings. A highly efficient lighting system gives uniform light distribution, the fixtures being recessed entirely into the false ceilings.

In the basement, primarily intended for machinery and auxiliary equipment, a cage washing room and special cage washing and sterilizing machines are located. An auxiliary oil-fired boiler serves as standby during shutdowns of the main steam plant. Special machinery for grinding, mixing, and drying of all kinds of feed and ample storage facilities for material and equipment are also available.

A special room has been set aside for conducting experiments with chemicals giving off noxious odors or which carry the hazard of explosion. This room, located in the basement, is dissociated from the air-conditioning system. Special ventilators, fans and flues have been installed to carry off odors which might otherwise be sucked into the air-conditioning equipment.

Glass blowing and the fashioning of delicate scientific instruments will be carried on in another basement room where an expert glass blower and a skilled wood and steel craftsman will be on duty.

A separate fireproof concrete building has been erected in the rear of the east wing and about fifty yards from the main building for carrying on research involving the use of such highly inflammable materials as benzene, acetone and ether. The structure is 30 by 42 feet and in addition to being completely fireproof is explosion-proof. Machinery in this building is spark-proof.

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CHRONIC NEPHRITIS IN PREGNANCY*

By
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Nashville, Tenn.

Sometime ago I wrote a paper on "Pre-Eclamptic Toxemia," which is a syndrome of symptoms of toxemia found late in pregnancy. It is non-convulsive, a preventable condition and may be arrested at any state by prenatal care, but if left untreated may drift into eclampsia.

It is interesting to know that previous to 1897 toxemia of pregnancy was not in the index of textbooks on obstetrics. Playfair's book of 1898 refers to a paper by Dr. Clifford Allbutt (in the *Lancet*, Feb. 28, 1897) in which he argues that albuminuria, headache of pregnancy and other symptoms are due to a poison in the blood rather than the mechanical development of pregnancy. Playfair says of Allbutt's paper: "This theory calls for careful investigation, but it is not based on any definite facts and certainly cannot be taken as proved." This condition may, and probably does many times, include cases of chronic nephritis. The limitation of our knowledge of these conditions is evident by a confusion of terms to describe the same pathologic process.

Stander and Peckham in their studies of kidney diseases complicating pregnancy divided them into three classifications:

1. Chronic nephritis complicating pregnancy.
2. Eclampsia superimposed upon nephritis.
3. Low reserve kidney.

In a later paper, however, Stander says chronic nephritis is not a true toxemia of pregnancy.

DeLee discusses the same conditions under the following terms:

1. The kidney of pregnancy.
2. Acute nephritis with eclampsia.
3. Chronic nephritis with or without eclampsia.

He also mentions acute nephritis with pyelitis of pregnancy.

It is confusing to try to distinguish between the various forms and degrees of chronic nephritis, even in non-pregnant women; and the strain of pregnancy, added to the already damaged kidney, makes a differentiation in about 50 per cent of cases impossible until after the puerperium or after the period of involution. Many cases may go to autopsy before a diagnosis is made.

All classifications of toxemia of pregnancy with or without nephritis carry a group of symptoms that are identical. Fortunately, the treatment is much the same but the prognosis is vastly different. When possible, a differentiation between chronic nephritis and the other toxemias of pregnancy should be made, and, if a chronic nephritis is present, steps should be taken to prevent further damage to the kidney and an early induction of labor to save the baby. Chronic nephritis kills more unborn babies in late pregnancy than any disease except syphilis.

An early induction of labor need not be considered, for the safety of the baby, in the other toxemias of pregnancy not complicated by nephritis. The "low reserve kidney" mentioned by Williams, as I understand it, is the partially disabled kidney that functions normally in the interval between pregnancies, and, even with the strain of pregnancy, does not produce any subjective symptoms. But by close observation, one finds a slightly elevated blood pressure (rarely over 150 systolic), a trace of albumin in the urine and some edema. After confinement all symptoms will disappear. This represents a majority of all the toxemias of pregnancy and is usually relieved by rest, diet, and purgatives. A similar course may be repeated with a subsequent pregnancy.

*Read before a joint meeting of the Northeastern and Northwestern Divisions of the Association, Clarence, Alabama, June 2, 1938.

Dieckman says "low reserve kidney" is a misnomer and the original authors have found it necessary to change the diagnosis in many of the cases and alter the concept of the condition. (Yearbook) I interpret this remark as meaning that many so-called "low reserve kidneys" are mild types of chronic nephritis.

Acute nephritis may develop in pregnancy, as it would in the non-pregnant woman, from the same causative factor and is equally hard to distinguish from the other toxemias, including the so-called "low reserve kidney" or chronic nephritis. Chronic nephritis is much more common in pregnancy than acute nephritis and probably more common than is recognized.

According to reports from several maternity hospitals, more than 2 per cent of all women delivered have nephritis. (White House Conference Report, Stander and others.) Williams states that in 801 toxemias in his service over a period of 6 years, 26.7 per cent were classified as "chronic nephritis" and 34.6 per cent were classified as "low reserve kidney." So it seems that more than half of the toxemias of pregnancy are associated with kidney pathology, probably nephritis.

It is remarkable how many cases of nephritis are "proved" after eclampsia and how many women die of chronic nephritis within one or two years after eclampsia. From reports of various authors 30 to 40 per cent of all eclampsias are followed by permanently damaged kidneys.

This does not prove that the eclampsia was the cause of all the damage to the kidney. Chronic nephritis may have preceded the toxemia and may have been one of the causative factors producing the eclampsia. A mild chronic nephritis may be present in early pregnancy and not recognized until the strain of pregnancy accentuates the symptoms. One of the most important features in making a diagnosis is history taking. Certainly one should inquire about acute infectious diseases, such as scarlet fever and diphtheria, and their convalescence; also repeated attacks of focal diseases, such as tonsillitis and pyorrhea, and especially the course and convalescence of a previous pregnancy. The chief subjective symptoms are headache, malaise, blurred vision, digestive disturbance and edema. With these subjective

symptoms and a suggestive history one should suspect chronic nephritis.

These symptoms are more severe with each subsequent pregnancy and occur earlier in the course of each one. Then look for the objective symptoms: blood pressure, albuminuria, etc. Urinary and blood findings are much the same in all the toxemias. The most important objective evidences of chronic nephritis are the character of the blood pressure and retinal changes. The average blood pressure of a pregnant woman is low (around 100 to 110 systolic). The average blood pressure of a nephritic patient is high (around 200 systolic and over). The characteristic blood pressure of a pre-eclamptic toxemia is a climbing one from a normal low of 100 or 110 to 150 or 170 systolic. If a woman is seen early in pregnancy with a blood pressure of 140 or over, one should suspect kidney damage. An exception to this rule would be a so-called "essential hypertension" which is seldom seen in pregnant women. (I have seen only one not incident to pregnancy.)

Albuminuric retinitis, if present, is pathognomonic of chronic nephritis. However, the absence of such retinal change by no means rules out the diagnosis of chronic nephritis. As a rule it is a rather late and grave symptom. Albuminuric retinitis must not be confused with retinal edema which occurs frequently in the other toxemias of pregnancy. An ophthalmologist should be called in the case to differentiate between the two conditions. Frequently they are confusing. Since prenatal care has been intelligently observed, toxemia of pregnancy has been reduced to a minimum, and eclampsia is rarely seen. In the 1936 Yearbook on Obstetrics, DeLee was advertising for an eclamptic patient to finish a motion picture he was working on. From January 15 to December 25 of that year they had nearly 3000 deliveries in the Chicago Lying-In Hospital without an eclampsia. (Yearbook)

Prenatal care does not prevent the development of a chronic nephritis nor does it prevent the damaging effect that pregnancy has on the diseased kidney. Regardless of prenatal care, the average nephritic woman cannot live through more than 3 or 4 pregnancies. But prenatal care by proper diet, intake of fluids, etc., helps to take the strain off the kidney. Peckham found in primiparas, following pre-eclamptic toxemia, 12.2 per cent had chronic nephritis; in multi-

paras, 39.3 had permanently damaged kidneys following toxemia. This shows the increasing damage with repeated pregnancies. In all his cases the blood pressure was above 170 (systolic); 15 per cent had blood pressure less than 200 (systolic); 48 per cent had blood pressure over 200 (systolic).

A woman known to have chronic nephritis should be advised against pregnancy. After the period of involution or any time in the interval between pregnancies, if the blood pressure remains high, and especially if a trace of albumin is found in the urine, the patient should be advised against pregnancy. If she becomes pregnant I would advise an early abortion. If the patient has scruples against such procedure and is willing to take the risk, I would advise an early delivery, preferably by cesarean with sterilization, or by induction of labor and sterilization by x-ray or some other method, after involution.

According to reports from the White House Conference on Maternal Mortality, a woman with chronic nephritis complicated by pregnancy has just half the chance to live as a woman with chronic nephritis not complicated by pregnancy. Stander's and Peckham's mortality was 42.5 per cent, average time to live $3\frac{1}{2}$ years. With each subsequent pregnancy the prognosis becomes more grave. The *in utero* mortality of babies of nephritic mothers is about 20 per cent. After viability, a baby has a better chance in the incubator than in the uterus of a nephritic mother. Emptying the uterus at any time adds to the mother's chances—the earlier the better.

Other therapeutic measures, such as putting the patient to bed between woolen blankets, adding a rich carbohydrate diet, intravenous glucose, limiting fluids, proteins and salt, and encouraging elimination with calomel and salts, are valuable procedures. As to how much liquid the patient should take is debatable. Where there is a small amount of edema I would give all the water she wants. Where there is much edema, water should be limited. Dieckman does not limit the intake of fluids.

These therapeutic agents are valuable in the general run of toxemias of pregnancy but in chronic nephritis there is nothing that equals emptying the uterus to arrest the progressive deterioration going on in the kidney.

CYCLOPROPANE ANESTHESIA*

By
HUGH LINDER, M. D.
Birmingham, Alabama

HISTORY

Cyclopropane was first prepared by Freud in 1882. It is also known as trimethylene, is the simplest cyclic hydrocarbon and is an isomer of propylene.

Many gases have been studied in the search for new and better inhalation anesthetics. One of these gases was propylene. In experiments with this agent as an anesthetic some preparations were found to show certain toxic properties. Due to the close chemical relation, cyclopropane was thought to be a possible cause of this toxicity. Lucas and Henderson¹ undertook to determine this possibility. To their surprise, cyclopropane, although the product first used by them was very impure, proved to be a very potent anesthetic with few toxic properties. They carried out a number of experiments on laboratory animals and determined its safety for anesthetic purposes. These results were published first in 1929.

The first clinical application of these findings was made by Waters² and his co-workers at the University of Wisconsin Medical School about 1930.

PHYSICAL PROPERTIES AND PHARMACOLOGY

Cyclopropane, as now marketed, is relatively uniform, being 99.5% pure. It is colorless and has an odor not unlike chloroform in concentrated mixtures. It is practically odorless in weaker concentrations. The taste is described as sweetish. It is almost non-irritating in anesthetic concentrations but in mixtures as high as 50% may produce excessive mucus secretion and laryngeal spasm. The pure gas is heavier than air but in diluted mixtures becomes lighter and diffuses rapidly. This diffusibility is possible through rubber to a measurable extent and must be taken into consideration in clinical use.

It might be stated here also that the gas

*Read, in part, before a meeting of the Alabama Anesthetists' Association, Birmingham, April 7, 1938.

1. Lucas, G. H. W., and Henderson, V. E.: New Anesthetic Gas; Cyclopropane; Preliminary Report, *Canad. M. A. J.* 21: 173-175 (Aug.) '29.

2. Waters, R. M., and Schmidt, E. R.: Cyclopropane Anesthesia, *J. A. M. A.* 103: 975-983 (Sept. 29) '34.

causes deterioration of rubber; and special, all-metal valves must be used in handling this gas. It is only slightly soluble in water but very soluble in lipoids. For anesthetic use, it is sold in cylinders under pressure of seventy-five pounds per square inch which is sufficient for liquefaction. This is to be compared with a tank pressure of 1250 pounds for ethylene. One ounce of the liquefied product yields four and one-quarter gallons of gas.

The chief undesirable property of cyclopropane is its explosibility. Cyclopropane-oxygen mixtures are explosive in cyclopropane concentrations of 2.5% to 50%. It is readily seen that these limits include the entire range of anesthetic mixtures. The usual concentration of cyclopropane in oxygen required to produce satisfactory anesthesia is 10 to 20%, with an average of 15%. The average lethal concentration is 42%, although anything above 35% is distinctly unsafe. The gas passes rapidly through the pulmonary spaces into the circulation and is quickly absorbed by the tissues, so that in effective concentrations unconsciousness occurs in one to two minutes. Elimination occurs rapidly at first, the patient recovering consciousness in two to ten minutes. It is not completely eliminated, however, for several hours.

The vital functions are not seriously affected in the ordinary concentrations. Respiration is not significantly changed, when low concentrations are used, but this agent lacks the stimulating effect of ether and nitrous oxide. Respiration does become quieter as nervousness is allayed and, as with other anesthetics, becomes chiefly diaphragmatic as anesthesia progresses. When lethal concentrations are used, respiratory failure occurs before circulatory failure. The effect on the circulatory system is still a matter of uncertainty. In the lower limits of effective concentration there may be occasional pulse irregularities and even electrocardiographic changes but these are probably no more frequent than with other anesthetic agents. In high concentrations, however, there are frequent and possibly significant circulatory abnormalities. Robbins³

3. Robbins, B. H., and Baxter, J. H., Jr.: Studies of Cyclopropane: Relation of Electrocardiographic Changes to Arterial Concentration of Oxygen, Carbon Dioxide and Cyclopropane in Dogs Anesthetized with Cyclopropane, *Anesth. and Analg.* 17: 81-89 (March-April) '38.

has shown in dogs that the cardiac irregularities occurring at the time of, or after, respiratory arrest are due to anoxemia. If artificial respiration is carried out these irregularities disappear, and 30% concentration of cyclopropane above that producing respiratory arrest caused no damage to the heart as shown by electrocardiogram. So far no discernible effect upon the kidneys or liver has been demonstrated even when the gas is given patients with already damaged liver or kidneys. This has also been true when it is given on repeated occasions. The effect upon the blood chemistry has been comparable to the effect of other inhalation anesthetics.

SUITABILITY AS AN ANESTHETIC AGENT

Certain characteristics of cyclopropane make it especially suitable as an anesthetic agent. Its rapid elimination, and the fact that respiration (in high concentrations) is affected before circulation, place it in the list of safe anesthetics. Induction is particularly easy because of the high potency, low irritability and rapid absorption. Once the patient is asleep, the anesthesia can be maintained smoothly and relaxation is adequate for practically all procedures, being only a little less than when ether is used. If proper concentration is maintained and carbon dioxide is adequately removed, sweating is very slight, this being in marked contrast to ether. Because of this smoothness, shock from the anesthetic is minimal. As stated above, respiration is diaphragmatic in the deeper phase of surgical anesthesia but the excursions of the diaphragm are less, so there is unusual quietness of the abdomen. Grunting and other respiratory sounds are usually absent. Cyanosis, of course, does not occur unless there is some technical error. The desirability of high oxygen and low cyclopropane concentration in the effective mixture is obvious. Recovery from the anesthetic is rapid and free from undesirable behavior due to semiconsciousness. Ordinarily, the patient is awake before leaving the operating room. Comfortable, and apparently normal sleep often follows recovery from the anesthetic. According to Waters and Schmidt² postoperative nausea and vomiting are less frequent in major but more frequent in minor procedures. Pulmonary complications, such as pneumonia, atelectasis and massive collapse, are much fewer.

Postoperative circulatory complications are probably no greater than with other anesthetics. Griffith⁴ believes a smoother postoperative course is unquestionable. A not insignificant advantage of cyclopropane is the fact that it must be given under exacting conditions, making it easier to deal with emergencies such as respiratory failure. This will be evident from the conduct of an anesthesia.

The disadvantages of this agent are few. The chief one is its explosibility. How this can be minimized will be shown later. It requires a special and rather expensive apparatus but such an apparatus is of definite advantage when other agents are used. It also requires special familiarity with the agent but this can not be considered a drawback.

SPECIFIC INDICATIONS

Because of the above mentioned characteristics, certain specific indications for use of this agent become evident. As suggested by Eversole, Sise and Woodbridge,⁵ any condition in which excess oxygen is desirable would seem to be best served with this type of anesthesia. Such conditions as hyperthyroidism, respiratory obstruction, anemias, shock, cardiac disease (only low concentration to be used) and thoracic surgery in general are notable. It is particularly desirable for intratracheal anesthesia because of its almost lack of irritation and laryngeal spasm. No other anesthetic quite so well seems to allay the nausea and retching often occurring in spinal anesthesia. It is also most satisfactory as a secondary anesthetic when spinal is inadequate. As a supplement to nitrous oxide or ethylene when more relaxation is desired cyclopropane is eminently satisfactory. Short procedures requiring good relaxation are admirably suitable for this type of anesthesia. Most abdominal surgery can be done satisfactorily with cyclopropane but relaxation is not so complete as when spinal or ether are used. Ether may be added, at any time, if desired.

In obstetrics it would seem to be ideal for operative work, especially cesarean section, since oxygenation of both fetal and mater-

nal blood is particularly good. In normal labor ordinary anesthetic mixtures may be used intermittently to allay pain, or low concentrations may be used continuously to afford analgesia without interfering severely with uterine contractions. Bourne⁶ has used it as an anesthetic in obstetric procedures and found it entirely satisfactory. He found no evidence of liver damage even in eclamptic patients. The writer has had no experience with cyclopropane in obstetrics except a very few cesarean sections.

CONDUCT OF ANESTHESIA WITH CYCLOPROPANE

In order to use cyclopropane satisfactorily it is necessary to use the closed system, carbon dioxide absorption technic. This requires a special type of apparatus but in general the requisites in addition to the usual type gas machine are a carbon dioxide absorption chamber, preferably the double type, a means of accurately measuring the gases used, inhaling and exhaling tubes of adequate calibre to allow free respiration, and a comfortable, close-fitting mask. Special needle valves and freely oscillating flow meters are necessary for accurate measurement of the gases. An extra breathing bag which may be cut into or out of the system at the wish of the anesthetist is desirable but not necessary. Several satisfactory machines are available; especially satisfactory is the Heidbrink make.

Using this closed type of anesthesia it is possible to give an hour-long anesthesia with not more than one gallon of cyclopropane. The approximate cost of this amount is now twenty-five cents. To this cost must be added the cost of oxygen required to maintain metabolism during the period of anesthesia. One filling of the soda lime canister (each chamber, if of double type) lasts about ten hours. This would not exceed ten cents in cost per hour. It is therefore obvious that this closed type of anesthesia is very economical as compared with the open method.

Preliminary medication is important in that nothing which depresses respiration to a significant degree should be given. If morphine is used, 1/6 grain should be the maximum. Possibly pantopon is more desirable. Despite the relative lack of irritation produced by cyclopropane, atropine gr.

4. Griffith, H. R.: Cyclopropane: Revolutionary Anesthetic Agent, *Canad. M. A. J.* 36: 496-500 (May) '37.

5. Eversole, U. H., Sise, L. F., and Woodbridge, P. D.: Clinical Use of Cyclopropane, *Surg., Gynec. and Obst.* 64: 156-164 (Feb.) '37.

6. Bourne, W.: Cyclopropane Anesthesia in Obstetrics, *Lancet* 2: 20-21 (July 7) '34.

1/150 is desirable. This, with morphine, is given 30-45 minutes preceding the anesthetic. Many anesthetists prefer morphine and scopolamine. A barbitol derivative (phenobarbital grs. $1\frac{1}{2}$) may be used an hour and a half before anesthesia.

The details of giving cyclopropane vary with every anesthetist. While the writer does not qualify as an expert anesthetist, this is the procedure which he has followed in a relatively short experience. Many anesthetists prefer to start with nitrous oxide but there would seem to be no advantage in it. The breathing bag is filled about two-thirds full with oxygen. The soda lime chamber is left out of the circuit for a time. The mask is properly fitted, all dentures being left in (unless loose), and strapped to the patient's face in a comfortable position. A few whiffs of oxygen are given at this time to accustom the patient to the apparatus. Cyclopropane is allowed to flow into the bag at the rate of 700 cc. per minute, assuming the bag is of the 7-liter capacity. Oxygen is also allowed to flow at the rate of 300-500 cc. per minute. After cyclopropane flows for one minute it is cut off and the patient allowed to breathe the mixture for a minute. The bag will probably not be full and oxygen is let in barely to distend the bag, then is cut down to 300 cc. per minute. Cyclopropane, at the rate of 350 cc. per minute, is again allowed to flow for one minute.

By this time the patient is ordinarily unconscious. The soda lime chamber may now be turned into the system. The eyes are observed and, if fixed in the forward looking position, the anesthesia is usually deep enough. If not, 350 cc. or less cyclopropane are added. This is repeated if necessary, allowing a minute or so to determine the depth. As soon as the eyes are fixed and anesthesia is progressing smoothly the bag is cut off from the mask, an air way is inserted and the anesthetic continued.

Breathing now should be quite free, and if the patient is asleep no struggling occurs. It should be stated here that the jaws must be supported as with other anesthetics. Many times, temporary apnea occurs shortly after starting the anesthetic due possibly to the high oxygen content of the mixture. No attempt at forced breathing should be made, but if the oxygen is cut off and nothing more done regular respiration soon starts. The pulse should be carefully

watched and will usually be found to fall somewhat as the patient becomes anesthetized. Any irregularity, or a rate of below 60, is a danger signal and means the mixture must be diluted with oxygen.

Assuming the anesthetic has been induced properly, maintenance is easily carried on. It is not necessary to clear out the system as with nitrous oxide or ethylene since excess oxygen is always present and cyclopropane is held at a minimal concentration for anesthesia. The accumulating nitrogen does no harm. The carbon dioxide is being constantly removed by the soda lime. Due to the absorption of cyclopropane by the tissues, some loss through the wound, and some through the bag, it will be necessary to add a little more gas during the first thirty minutes even though the system is leak-proof. This should be added in increments of 100-200 cc. and determined by the patient's reaction; that is, eye fixation, pulse and respiration. Color is of no help since the patient has a pink color at all times even when near respiratory arrest. Oxygen must be run in constantly according to the metabolic need. This will average about 300 cc. per minute and can be ascertained by whether the bag deflates or inflates and by the patient's reaction.

Some patients, such as those with severe thyrotoxicosis, require much more oxygen. After maintenance is established it is theoretically possible to carry on the anesthetic without further addition of cyclopropane since it is breathed over and over again without being further absorbed or metabolized. In practice, however, small amounts must be added at intervals. This procedure of giving maximum oxygen and minimum cyclopropane is to be contrasted with giving maximum nitrous oxide or ethylene and minimum oxygen to afford oxygenation. The anesthetic should be continued until the skin is closed. The bag is then cut out of the circuit and the patient allowed to breathe a mixture of 2,000 cc. oxygen per minute and 200 cc. of carbon dioxide per minute. Recovery is rapid and by the time the dressing is applied the patient is almost awake.

Certain precautions may be emphasized. Always add oxygen if the pulse becomes irregular, slowed below 60 per minute, or if it begins to rise out of proportion to the surgical procedure. If respiration becomes rapid and short it usually means too con-

centrated a mixture. Deep respiration often means the soda lime is inefficient. It is to be remembered, however, that respiration is much quieter with cyclopropane than with ether but the change from costal to diaphragmatic breathing takes place as otherwise.

Carbon dioxide probably should not be given to stimulate respiration, addition of oxygen usually being all that is needed. Apnea during induction should cause no alarm unless cyclopropane has been added too rapidly. If respiratory arrest should occur, it usually does so before circulatory failure and should be treated by rapidly clearing the bag of cyclopropane and refilling with oxygen. Oxygen can then be forced into the lungs by gently compressing the bag 15-20 times per minute. Respiration will ordinarily be resumed normally. Adrenalin should not be given. The writer has never had this emergency arise but has seen patients very near respiratory arrest.

PRESENT STATUS OF CYCLOPROPANE ANESTHESIA

Cyclopropane has been used as an anesthetic on human beings since 1930. Waters⁷ and his associates have done more work on it than any other group and consider it well worth continued use by competent persons. In over 7,200 cyclopropane anesthetics, three probable anesthetic deaths have occurred. One was accounted for by a pre-existing circulatory depression. The other two were ascribed, at first, to a technical error in administration but later to ventricular fibrillation. Adrenalin was given in one. All were induced rapidly.

This anesthetic has been given in practically all types of cases and Griffith feels that it is almost universally applicable. He believes the postoperative course is definitely smoother. Age seems to be no contraindication, his cases ranging from seven days to ninety years. It is being used with increasing frequency in many large clinics. The anesthesiologists at the Lahey Clinic are particularly enthusiastic. It has been found pleasant from the standpoint of the anesthesiologist, surgeon, nurse and patient and certainly compares favorably in safety with all other agents.

No one denies its explosibility but due to the manner in which it is given this danger

is held at a minimum, especially from outside sources. If humidity is kept above 50, danger from static charges is almost negligible. Even with its danger of explosion it is in no manner more unsafe than the mixture of nitrous oxide-oxygen-ether or ethylene-oxygen-ether which many anesthesiologists give and surgeons accept without fear. Most of the terrible explosions have occurred from these mixtures and not from cyclopropane.

A final warning note should be given that cyclopropane must not be given except under proper conditions and by one familiar with its administration. The beginner usually gives too high concentrations at first but, as he gains experience, relaxation is obtained with mixtures rarely exceeding 20%. When this agent is given by an expert with modern apparatus and under the conditions set forth above, it would seem to warrant the enthusiasm most of its users now express.

BURNS*

FUNDAMENTALS OF SUCCESSFUL TREATMENT

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INTRODUCTION

The progress and spread of knowledge with respect to burns has, for some reason, been retarded more than in any other surgical condition. Because of this fact, the essayist wishes to bring before you in some detail the tannic acid treatment of burns as first advocated in 1925 by the late E. C. Davidson. It is one of the most important advances made in modern therapeutics. Its value is shown by the drop in death rate in some of the large hospitals where it has been faithfully carried out. Study of a collected series of reports in a group of hospitals shows a decrease in the death rate from 32% before the introduction of tannic acid treatment to 12% afterwards.

CLASSIFICATION

A classification of burns into two degrees, superficial and deep—based on the expectation of scar tissue formation—seems most

⁷. Waters, R. M.: Present Status of Cyclopropane, Brit. M. J. 2: 1013-1017 (Nov. 21) '36.

*Read before a meeting of the Southwestern Division of the Association, Monroeville, July 28, 1938.

natural to me and has been suggested by several authorities. In such a classification, superficial burns would include all in which complete destruction of the skin has not taken place and islands of epithelium in the hair follicles, and coiled glands, are left beneath the skin—the islands acting as natural Reverdin skin grafts from which complete epithelization can occur. The deeper burns would be those lesions of deeper penetration in which the epithelization could occur from the edges of the lesion only; and which would consequently require artificial skin grafting or other surgical measures to produce satisfactory functional and cosmetic results. Aside from these points, and that infection is more troublesome usually, burns are simply ordinary wounds and present no other novelties.

PATHOLOGY

The local pathology found in a burn is the classical picture of inflammation and need not be repeated at this time. The constitutional reaction to a burn is altogether too infrequently emphasized.

The severity, as concerns life, of a burned case depends not so much upon the depth of the trauma or the gross amount of tissue actually destroyed as upon the *extent* and *location* of the skin area involved. Living skin, when subjected to the trauma, known as burning, is capable of developing certain complex chemical by-products, the exact nature of which is unknown but which are absorbable, and which, when absorbed into the circulation, produce systemic reactions described collectively as "toxemia." In this respect skin differs from other tissues.

There is apparently a definite latent period of about eight hours between the occurrence of a burn and the beginning of toxic absorption, since it has been shown experimentally that if complete excision of a burned skin is performed within such a period the toxemic constitutional reaction does not develop. On the other hand, if excision is delayed beyond this latent period, the procedure is without avail. The clinical symptoms of toxemia do not ordinarily appear for from twenty-four to forty-eight hours, or even longer, after the infliction of a burn.

The development of burn toxemia is accompanied by a very definite concentration of the blood in the more severe cases, and

this concentration has been found clinically to vary directly with the severity of the burn.

According to the researches of Underhill, which have been amply confirmed by other investigators, the chloride content of the blood in burns is characteristically reduced considerably. The reduction in severe cases may be of the order of 50%. Only one explanation for such a state of affairs is evident, the occurrence of "chloride retention." It is generally assumed that such storage represents a conservative process in which the chlorine radical combines with the primary toxic materials elaborated in the burned tissues, and subsequently absorbed into the blood stream, in such manner as to render them innocuous. This theory corresponds with the observed facts in that excessive chloride excretion occurs at the end of the toxemic period, i. e., at the time of the separation of sloughs. In lobar pneumonia is found a close analogy in that, during the height of the disease, there is marked chloride retention, but after the crisis excess chloride excretion.

Blood sugar estimations on specimens taken from dying burn cases are very low. Albumin and casts are more or less constantly demonstrable in the urine of burn cases, but appear to be solely dependent upon blood concentration.

CLINICAL MANIFESTATIONS

As previously mentioned, the clinical manifestations of toxic absorption usually appear only after twenty-four to forty-eight hours. They consist of:

1. Elevation of temperature,
2. Rapid pulse,
3. Vomiting, and
4. Drowsiness or delirium.

The development of such symptoms and the development of the previously described underlying pathology may be expected to occur in all cases of extensive burns, even though very superficial.

PROGNOSIS

As to life, moderately deep burns are serious when they involve over 1/10th of the body surface; may be fatal if more than 1/3rd is embraced, and patients usually die if more than 2/3rds is included. Much less extensive burns in children often result fatally. The estimation of the severity of a

burn on the basis of total body surface involved is of course inaccurate but is as good as any method we have. We should know how much body surface is in any one part and here are some approximate figures. The trunk and neck of the body constitute 38% of the total; both legs and buttocks combined, 38%; the head, 6% and both upper extremities, 18%. If these figures are remembered a more accurate prognosis may be given than a random guess.

TREATMENT

The essayist wishes now to go into the treatment of burns point by point, stressing fundamentals and practical points gleaned from experience.

First degree burns without bleb formation, if of no considerable extent, produce little systemic reaction and often do not seek medical aid. Those that do call for treatment should be given applications of picric acid in aqueous solution, or one of the popular picric or tannic acid ointments. They are slightly antiseptic and anesthetic at the same time.

More severe burns should be given the tannic acid treatment as advocated by Davidson in 1925, a treatment which has aroused new and enthusiastic interest in a very old subject marked by few advances in recent years. It should be stated, however, that the improved results, which Davidson showed could be obtained, undoubtedly were not alone due to local use of tannic acid solution but also to the reemphasis which he placed on supportive measures to combat the initial shock and the later toxemia.

Patients with extensive burns, when first seen, will usually be found in a greater or less degree of shock, especially children and those with burns about the face, neck and shoulders. The exact mechanism of burn shock is not well understood. Presumably it is caused by an overwhelmingly violent stimulation of sensory nerves. The medical attendant, in his zeal to do something locally, should never overlook the presence of shock, which is easily recognized by its symptoms: subnormal temperature, rapid pulse, low systolic blood pressure, cold clammy skin and coma or partial consciousness. However severe the local lesion, to attempt its active treatment with the patient in shock is futile. The treatment of burn shock is in no way different from the

treatment of shock otherwise induced. The essential factors are the administration of large doses of morphine; the maintenance of body temperature by the application of external heat in the form of the light tent or hot water bottles, and internal heat in the form of warm drinks or intravenous infusions, the lowering of the head to combat cerebral anemia, and the promotion of quiet and rest. During such a period, while shock is being overcome, simply cover the burn with a sterile sheet or sterile dressings.

It should be emphasized that toxic absorption from the burn does not occur for at least 8 hours, and this interval should allow an ample period for the treatment of shock before the institution of local treatment of the burn. Only two important exceptions must be made to this. One is to be sure that the patient's clothing is not smoldering; and second, if it is a chemical burn, be sure the causative agent has been neutralized properly. To emphasize this treatment of shock, we wish to describe at this time the outfits for giving hypodermoclysis or intravenous infusions which can be carried and given anywhere on just a few minutes' notice. They consist of a sealed liter container of 10% glucose or normal saline, which keeps indefinitely, and of the necessary tubing, connections and needles which can be sterilized and carried wrapped in a sterile towel ready for instant use. There is no need for any doctor to rush a shocked patient to a hospital many miles distant. With one of these outfits and other things found in any household, shock and the later toxemia can be combated efficiently anywhere. Do as the American College of Surgeons has for many years advocated in fractures and head injuries. Splint them and treat them where they lie. Even a blood transfusion can be given with one of these outfits if sterile sodium citrate solution is available.

The treatment of the local lesion begins only when reaction from shock definitely sets in. Mild burns of course can be attacked locally without delay. The treatment of a burn case may be outlined as follows:

1st. Morphine or codeine should be given at once.

2nd. The grime of work is removed, without undue scrubbing, with ether, benzine or plain white gasoline. Gasoline is useful,

especially in hot tar burns, as it dissolves the tar and stops its irritation. It is also mildly antiseptic and soothing. The clothing should be cut away or soaked away in water, or otherwise removed in such manner as will add little to the existing trauma. Frequently, in very severe cases, the patient may be placed in a bath tub filled with warm water and the clothing gently soaked or cut away. The surrounding unburned skin area is thoroughly cleansed with soap and water. The blisters are widely opened under careful aseptic technique, using sterile instruments and sterile gloves, and the loose areas of skin are removed. The extent of débridement and scrubbing must depend on the patient's condition. Too much manipulation may aggravate or produce shock. The entire area is finally cleansed with some non-irritating fluid like normal saline solution, benzine or plain white gasoline. We have also used, in the final cleansing, the solutions of metaphen and merthiolate in normal saline that are sold commercially. But our preference is for the final cleansing to be with ether, benzine or plain white gasoline as they are fat solvents.

In very severe cases some authorities unhesitatingly recommend the preliminary cleansing under general anesthesia in the operating room and making of it a formal surgical procedure to assure thoroughness. However, we have never had the courage to give a general anesthesia in a severe burn as we have a very healthy respect for shock.

3rd. After the preliminary cleansing the patient is covered with sterile dressings or placed in bed on sterile sheets. A cradle to support the bed covers is placed over the patient. Sufficient electric lights or other forms of heat are introduced between the covers to produce a temperature of 90° F. Such heat aids in the drying process thereby hastening the tanning.

4th. Tanning of the burned area is now carried out. By reason of necessity much dead skin is still left behind and some method must be provided to chemically neutralize this toxic matter in place. Various substances have been used for this purpose in the past, but, since 1925, tannic acid fixation has become virtually standard. In this method, a tanning process, fundamentally similar to that in the preparation of leather, is employed. The application of tannic acid solution to the burned area may be made by

means of wide gauze compresses, or by spraying the solution on the area with a simple atomizer. In applying the solution by either method, the aim is to keep the burned surface continually moist until a dark, mahogany colored coagulum is obtained. Usually this requires from 10 to 18 hours. Since the solution evaporates from the skin, it should be sprayed on every 15 minutes or the gauze compresses renewed every 30 minutes. A freshly prepared watery solution of tannic acid is considered preferable today. In the July 17th, 1937 issue of the Journal of the American Medical Association, page 203, a formula for a stable solution is given, to be kept on hand for instant use.*

A homely but practical emergency suggestion is the use of a strong decoction of tea as a tannic acid solution.

Inasmuch as tannic acid solutions are antiseptic by virtue of their protein coagulating properties, they require no preliminary sterilization, although it is well to take the precaution to use sterile water in their preparation. The addition of an antiseptic to the tannic acid solution, such as merthiolate or metaphen (one part to 5,000) is considered by some as being slightly advantageous. Our personal observation is that we should consider these added antiseptics as being bacteriostatic solely, and that the prevention of gross infection is not due to them but to the preliminary cleansings, the dry coagulum produced by the tannic acid and to strict surgical asepsis in the care of the patient.

In the case of burns about the face the wounds can be treated, with less annoyance to the patient, with tannic acid jelly or paste. Such a preparation, if applied very liberally, will cause a satisfactory tanning and will quickly relieve the pain.

A point well worth remembering in the tannic acid treatment is that all excessive grease on the skin must be removed with ether, benzine or gasoline; and if any of the many popular greasy salves and burn oint-

*Potassium chloride	0.42 Gm.
Calcium chloride	0.84 Gm.
Salicylic acid	1.00 Gm.
Sodium chloride	10.50 Gm.
Tannic acid	100.00 Gm.
Distilled water to make	1,000.00 cc.

Mix and permit to stand with occasional agitation until dissolved, and filter, if required to dispense a clear solution.

ments are on the burn when first seen by you they must be thoroughly removed. A 10% solution of silver nitrate is applied by some to the coagulum immediately when first formed. It seems to be an added advantage as it speeds coagulation.

After the coagulum has been formed by whatever tannic acid method used, it should be thoroughly dried as this keeps down infection and stops dehydration.

In the local treatment of burns the local application of 5% tannic acid fulfills the five essential indications: 1. prevention of toxic absorption; 2. prevention of infection; 3. prevention of pain; 4. prevention of dehydration; and 5. protection from trauma. Any other local treatment of burns must equal or surpass the tannic acid treatment in all these points before it can be seriously considered as a successful rival. The one that now more nearly approaches it is the use of 1% aqueous solution of gentian violet. The objection to it is that the scar or coagulum is very thin, and, in case of an extensive burn, is not tough enough to protect against trauma. A patient cannot lie on a scar formed by gentian violet. The claimed bactericidal action of gentian violet is not exactly true; and, anyway, any such action only offers a false sense of security against infection. In an old infected wound, however, gentian violet may be of some advantage.

5th. The coagulum is allowed to remain in place until it can be peeled off easily. Efforts to remove a coagulum before it has spontaneously separated will result in the escape of blood and serum, cause the patient extreme and unnecessary pain, and increase the chances of infection. Should the coagulum remain adherent at the end of three weeks, one may be certain that the burn is of the second degree; that is, the skin is totally destroyed. In this case the denuded area left after the loosening and removal of the coagulum should be immediately prepared and a skin graft done. Should serum collect beneath the coagulum, or should infected fluid cause its loosening, the coagulum should be removed sufficiently to allow drainage and treatment. There is an important point to be remembered here. Never use wet dressings. They simply make a more fertile field for the growth of bacteria regardless of their antiseptic properties. As soon as possible after healing has taken place, physiotherapy should be instituted to

increase function. If contractures are present, plastic operations may be carried out.

6th. While the local treatment of the burn is carried out, the systemic treatment should not be neglected but continued energetically. After the initial shock, patients die from blood concentration, toxemia or infection. Fluids should be given early and in fairly large quantities—four or five liters every 24 hours by every avenue available—by mouth, by proctoclysis, by hypodermoclysis or by infusion. The administration of water and sodium chloride in comparatively large quantities constitutes the surgeon's sheet anchor in the presence or anticipation of burn toxemia. The therapeutic possibilities of blood transfusion, even after the initial shock is over, should be kept in mind. It does help in toxemia and sepsis. Also, there seems to be no good reason for not giving glucose infusions since every surgical principle seems to indicate the maintenance of a normal blood sugar level.

The adequacy of treatment of toxemia can be determined by laboratory tests. Hemoglobin estimations and total red blood counts should be done every three or four hours in severe cases. If the abnormal values are not satisfactorily reduced, water and sodium chloride must again be pushed.

CONCLUSION

In conclusion, we wish to say that, in view of the foregoing discussion of the fundamentals of the tannic acid treatment, it is evident that the treatment of burns is now sufficiently well developed along simple rational lines as to stimulate the surgeon's most active interest in his burn cases. The rewards of careful treatment are as great as may be found anywhere.

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PRENATAL SYPHILIS AND ITS TREATMENT*

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Syphilis is not only one of the most serious complications of pregnancy,¹ both in its immediate and its remote effect, but its diagnosis is overlooked more often, probably, than any other complicating disease.

In Alabama in 1935 syphilis was responsible for eighty-three deaths under five years of age.² Seventy-six of these were of infants under one year of age. In 1936 syphilis caused more infant deaths than measles, scarlet fever and whooping cough combined.

Every year more than 77,000 stillbirths are registered in the United States. This number, however, represents only a part of the total number of fetal deaths, since registration of the products of conception of periods of gestation before the 5th month is not required in most states. There are, in addition, more than 63,000 infant deaths annually that are due to natal and prenatal causes, which occur in the first month of life. The serious losses of life in the fetal and neonatal periods are causing great concern, particularly in the presence of a low and falling birth rate. While we have no definite statistical information, the fact remains

that a large number are due to syphilis and are easily prevented.

McCord,³ in a series of fetal autopsies, reported 57% with positive findings of syphilis. In his large clinic in Atlanta, McCord found syphilis in 22.5% of pregnant women. The incidence among white women of the better classes is clearly much less than in clinic cases, but without routine Wassermann and Kahn tests in private practice, it is equally clear that many instances of syphilis, not presenting clinical symptoms, pass unrecognized. The birth of a premature infant, either macerated or presenting signs of congenital syphilis, may be the first evidence of the existence of this disease in the mother and the father. Negative reactions do not rule out the disease. In fact, false negatives are more apt to appear in the pregnant syphilitic than in others.

Parran⁴ feels that, with universal serologic tests on all pregnant women and with appropriate antenatal treatment, new cases of congenital syphilis can be eradicated in a decade. In recent years syphilologists have observed a general amelioration of the severity of this disease.⁵ Indeed, a few authors express the view that pregnancy confers a degree of immunity against lues, reducing its virulence.

Titus¹ states that syphilis, acquired during pregnancy, is affected by the existence of the pregnancy in that its primary lesion, the chancre, is larger and spreads wider in the more than ordinarily congested tissues of the labia, vagina or cervix. Secondary lesions are more pronounced during pregnancy and the disease in general is more severe in all of its usual or complicating manifestations.

Leütic women are often sterile,⁵ perhaps because the ovarian function is suspended in a manner similar to that of the testicle of the syphilitic man. If the syphilis is more recent, the fetus dies and abortion occurs. Each succeeding pregnancy terminates the same way, until a living but syphilitic child is born. If the syphilis is contracted during

*Read before a meeting of the Southeastern Division of the Association, Dothan, August 11, 1938.

1. Titus, P.: Management of Obstetric Difficulties, St. Louis, C. V. Mosby Company, 1937.

2. Alabama State Board of Health, Vital Statistics Report, 1937.

3. McCord, J. R.: Syphilis of Placenta in Negro; Study Based on 1,000 Consecutive Cases, Am. J. Obst. & Gynec. 11: 850 (June) 1926.

4. Moore, J. E.; et al.: Management of Syphilis in General Practice, Supplement No. 6 to Venereal Disease Information, 1938.

5. DeLee, J. B.: Principles and Practice of Obstetrics, 5th ed., Philadelphia, W. B. Saunders Company, 1928.

the early months of pregnancy, that is, post-conceptional infection, premature labor is the rule; but, if the infection is acquired during the later months, the child may escape, the placenta offering a barrier to the spirochete.

Unfortunately, there exists much confusion today as to the mode of transmission of syphilis.¹ The generally accepted view is that the disease is always transmitted from the mother to the child *in utero* by way of the placental circulation, being a congenital rather than a hereditary disease. Abortions prior to the fourth month are not supposed to be caused by syphilis except when the infection took place just before conception. It is probable that both husband and wife have syphilis if one of them has it. Even in those instances of twins in which one shows active signs of syphilis while the other is apparently normal, the serologic reactions will eventually be positive in both.

In most instances the course of labor is not affected by the existence of syphilis.⁵ Mal-presentations are found as the result of the mobility of the premature and macerated fetus. Occasionally uterine inertia, failure of a fibrous cervix to dilate and subinvolution are noted. Condylomata are more frequent and may offer difficulty.

Obviously the treatment should be started as early in the pregnancy as possible.⁶ M. D. Speiser, of the Obstetrical Department of Bellevue Hospital, reports that, if the treatment is given early, there is very little syphilis left in the child. There was one syphilitic child out of 32 cases where treatment was started during the second or third month of pregnancy. There were three out of fifty patients who showed syphilis when treatment was started between the fourth and sixth months. Thirteen out of seventy-one patients, however, showed a certain amount of syphilis if the mother was treated only during the latter part of pregnancy. In all of these cases the congenital syphilis was very easily controlled by antisymphilitic treatment. The United States Public Health Service⁴ reports that every syphilitic mother who receives twenty injections of an arsenical and twenty injections of a heavy metal would be classified as having had adequate prenatal antisymphilitic therapy.

Patients who receive adequate treatment will produce healthy babies just as often as non-symphilitic mothers. Speiser reports 94.7 live babies born without syphilis in his series of cases. Results in other clinics have been equally as good.

INDICATIONS FOR TREATMENT

1. Every mother who has a positive serologic examination.⁴
2. Every mother who has ever had syphilis regardless of present serologic findings.
3. Every mother who gives a history of having had syphilis or a syphilitic baby at any time.
4. Past treatment does not influence the future course of treatment except to insure a non-symphilitic child if adequate treatment, thorough in every detail, is carried out in each future pregnancy.
5. Positive darkfield examinations.
6. History, with all the physical findings.

TREATMENT

The primary aim in the treatment is to prevent the transmission of the disease to the offspring. Obviously adequate treatment in pregnancy will go a long way toward curing the disease in the mother.

The routine employed varies with the age of the syphilitic infection and the period of gestation. Treatment should be interrupted in the presence of toxemia and other medical contraindications. Severe reactions call for the prompt interruption of arsenical therapy.

Should the patient with early syphilis be seen for the first time during pregnancy, she is treated in the same manner as the non-pregnant syphilitic patient. The treatment of the pregnant woman with latent syphilis varies with the length of the gestation.

Regardless of the length of gestation, however, treatment is always continuous and uninterrupted by rest periods. When therapy is started in the first trimester, it is well to begin with arsenic as a preliminary to the use of bismuth. Alternate series of at least ten injections of bismuth and neoarsphenamine are indicated, and the treatment is so arranged that the last six weeks are to be occupied by the administration of an arsenical. The treatment should be concluded with an arsenical simply because arsenic has a great spirocheticidal value. When treatment is started in the second trimester of pregnancy, the method used is continuous

6. Speiser, M. D.: Results of Treatment in Antepartum Syphilis Clinic at Bellevue Hospital, *Am. J. Obst. & Gynec.* 35: 1013 (June) 1938.

alternate therapy with a slight overlapping of the courses. Just before the course of bismuth is completed, the course of arsphenamine is begun. In the final group, those who present themselves during the last trimester of pregnancy, the continuous combined therapy is used. The arsenical is used weekly until the end of pregnancy—thus, perhaps allowing up to 14 to 15 doses. The bismuth is given on a separate clinic visit each week and may be interrupted for a few weeks following the series of four to six injections. When neoarsphenamine is employed, the initial dose is 0.3 gm.; this is increased to 0.45 gm. and subsequently to 0.6 gm., at which level it is usually maintained throughout, concluding the treatment with an arsenical.

Obviously, when giving an arsenical, one must be ever on the alert for the possibility of reactions. Each patient is questioned as to her subjective symptoms following the last arsenical. The skin, mouth, wrist, elbow bends, the urine and blood pressure should be watched very closely for evidences of toxicity.

While arsenic is unquestionably the most valuable drug in the prevention of the transmission of the infection from the mother to the offspring, its use is not attended without untoward reactions. Gastro-intestinal disturbances, namely, nausea and vomiting, pruritus, crustaceous dermatitis and icterus are encountered much more frequently in the pregnant syphilitic than in the non-pregnant.

CONCLUSIONS

The transmission of syphilis from mother to child can be prevented. Here we have one of the greatest fields of preventive medicine.

A living and uninfected baby may be expected in 95% of the cases receiving adequate treatment.

In early syphilis the child should not be put to the breast unless the mother continues treatment.

Obviously, observation of the baby with treatment continues following the delivery until the doctor is able to rule out syphilis definitely.

Never fail to treat the patient thoroughly if she has ever been told that she had syphilis, regardless of past treatment or deliveries.

Treatment should be continued after delivery until the infection is cured.

It is never too late in pregnancy to bring about some good by the use of antisyphilitic therapy.

A routine Wassermann in early pregnancy with adequate treatment stands between the physician and a premature baby, macerated fetus, stillbirth, or a living monument of gross negligence.

FOUR-YEAR MEDICAL SCHOOL ITS IMPORTANCE TO THE STATE

By
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Huntsville, Ala.

Next to a reasonable increase in the annual appropriation for the public health program of the State, there should be unanimous support by the medical profession of Alabama of the effort now being made to resurrect our four-year medical school. The Committee from the Medical Section of the Alumni Association of the University of Alabama is seeking this support by requesting every County Medical Society to endorse resolutions asking the establishment of this school. Considerably over half of the County Medical Societies have already endorsed them. The others should do so promptly.

Alabama now has at the University a two-year medical school, the equal of any two years in medicine anywhere, the students from which are readily accepted by other medical colleges where they are making creditable records. It is a shame that ambitious young men and women of Alabama wishing to study medicine cannot take the entire four years within the State, where the cost would be much less; and who, when graduated, could make connections at home, entering practice or some special field among their own people whose mode of life and thought they readily understand and to whom they are more acceptable than one born, reared and trained in another environment. Alabama should have native-born, reared and educated leaders in every endeavor of life—medicine as well as literature, law and technology.

In addition to making it easier for Alabama youth to study medicine, by bringing the education of his choice to him, a four-year medical school would be the source from which additional and newly-trained

personnel, now so much needed by the public health system of Alabama and other Southern States, would be sought because of expansion of programs and the inevitable promotion and change of personnel. These native graduates would easily fit into the scheme of things in Alabama, and, being Alabamians, would be more enthusiastic developers of Alabama.

In addition to the need of health departments—state and local—for a steady supply of personnel, which might be had through our own medical school, there is an astonishing lack of medical service in many counties of Alabama. It is not a stretch of imagination to believe that many young men, who have had to leave the State for a medical education and who are now at work elsewhere, would be serving their own people in some of these counties had they been afforded the opportunity of attending a complete four-year medical school in Alabama. This scarcity of doctors in certain areas will never be corrected until Alabama has its own four-year medical school.

There is the problem of the charity load upon all hospitals in the State. In connection with a four-year medical school there would have to be a hospital of sufficient size and proper equipment for teaching purposes. This hospital should be built and equipped out of the medical school appropriation; and to it charity patients from all over the State could be sent upon the certification of a physician, thus relieving the charity load to a great extent now borne by local hospitals, which are, in many instances, private hospitals that can ill afford this charity load.

There is, also, the possibility of a medical research institution somewhere in the South. It is said that there is great need for such an institution in our Southland. If it ever comes it will be in connection with a four-year medical school. As it stands now, Alabama could not qualify. With a four-year medical school it could.

Alabama now participates in extension courses for doctors. Obstetrics and pediatrics have been given during the last two years and internal medicine will be added shortly, but the work is being carried on in cooperation with the four-year medical school of another state. With a four-year school in Alabama it would take over these extension courses. In fact, as one writes, an

ever-increasing vista of usefulness opens before one's mind's eye for a full four-year medical school in Alabama.

To those who would say, "If we cannot have a large school, we do not want a small one," I would answer that Alabama once had a small four-year medical school. And who can say her graduates have not attained as high honors and places and filled a need in Alabama as worthily as those of any medical school anywhere? A small four-year medical school established in Alabama now would, in my judgment, be able in the coming years to point back over a period of years of its existence with pride to the honors and attainments of its graduates; and, what is more to the point and deeper in meaning, to the service they had rendered the people in all walks of life and in the remotest sections of the State.

The medical profession of Alabama will miss a great opportunity to serve the State if it fails to endorse unanimously the movement for a four-year medical school. Next to the regular public health program and its appropriation should be the support of a full four-year medical school and hospital for teaching purposes in this State.

"Public health in the past has been considered to be more or less synonymous with preventive medicine. With the standardization of methods of sewage disposal, effective control of water and milk supplies, and the application of the modern specific prophylactic measures, preventive medicine has practically reached its asymptotic level of development. I do not imply that we are doing all that can be done, far from it. On the contrary, many of our public health agencies, especially our county and state organizations, are simply vegetating when one considers what is accomplished in the field of preventive medicine.

Public health in the present and future must be more comprehensive. It is surely the objective of public health endeavor to save human lives, either preventively or curatively. As science and medicine move forward, so must public health, and utilize the various methods provided for saving lives. Such activity cannot be considered an encroachment upon the private practice of medicine. The private physician and health agencies can, and must, establish a cooperative plan for such a program. It has been done and most successfully. Pneumonia is one disease the ravages of which have been materially lessened by a co-ordinated attack by health officials and private physicians. This epochal achievement marks the first extension of preventive medicine into the field of curative medicine. It is a most laudatory development and one that lends itself to much greater elaboration."—*Sweeney, Texas State J. Med., November, 1938.*

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PRESENT DAY KNOWLEDGE CONCERNING
THE ANTERIOR LOBE OF THE
HYPOPHYSIS

Recently Rynearson and Hodgson¹ of the Mayo Clinic made a most commendable attempt to evaluate and clarify the present knowledge of the anterior lobe of the hypophysis. They state that "the present report is not being written by or for those who are actively engaged in fundamental work in this field. Laboratory workers will find it inadequate for their purpose. It is not being written by or for those who specialize in endocrinology.

"Our aim is to record the important relations of the anterior lobe of the hypophysis for those who, like ourselves, are practicing internal medicine in the broader sense of the term."

The authors go on to say that "for many years the knowledge of the anterior lobe of the hypophysis was limited to that obtained from a study of its anatomy, histology, cytology and pathology. . . A new era really began when Evans and Long reported their work with the growth hormone in 1921. In the intervening seventeen years thousands

of articles have reported work on the many hormones, real or suspected, which are attributed to the anterior lobe of the hypophysis. Separate hormones have been reported to have an effect on growth; lactation; behavior; blood; pigmentation; metabolism of carbohydrate; protein, fat and water; production of ketone bodies, and activity of the thyroid, parathyroid, pancreas, adrenal and sex glands—and this list is incomplete. When incomplete knowledge of these effects reached the ears of some indiscriminating and overly enthusiastic clinicians, there followed the publication of many more 'contributions' to medical literature. It is only within recent years that a semblance of order has developed.

"Even now it is not known how many hormones are produced by the anterior lobe of the hypophysis, and most certainly the clinical application of most of them is not understood. It is inconceivable that two secreting cells can produce all the hormones which have been reported. This does not mean that the anterior lobe of the hypophysis does not have many effects on the body and its metabolic processes; it indicates, rather, that these effects probably will be explained with fewer hormones than are required at present."

The authors then go into a detailed consideration of eleven aspects of this subject and their very sensible conclusions are as follows: "Physicians who attempt to maintain a conservative and critical approach to medicine have long been disturbed by two things: First, their friends in the laboratories have seemed able to do marvelous things with the administration of various extracts to animals, and yet when patients have been treated with these extracts the results have been disappointing. Second, their enthusiastic colleagues, the endocrinologists, have been reporting brilliant results in all sorts of conditions; even baldness has been 'curable' with a 'pituitary hormone.'

"Now the conservative physicians feel better, for they can see a change occurring. Conservatism may yet have its 'inning' in a game in which enthusiasm has been predominant. Articles are now appearing in which it is admitted that not all fat boys have 'Frohlich's syndrome'; that a weight reduction regimen is needed more often than a syringe of 'hormone.' Articles are

1. Rynearson, Edward H., and Hodgson, Corrin H.: Recent Advances in Knowledge of the Anterior Lobe of the Hypophysis, Archives of Int. Medicine, 62: 160 (July) 1938.

also appearing in which many conditions described as 'Simmond's disease' are correctly diagnosed as anorexia nervosa. Some writers are even stating that they do not know what is wrong with the patient.

"After all, there are only a few clearcut syndromes resulting from disturbances of the anterior lobe of the hypophysis; these are dwarfism; acromegaly or gigantism; Frohlich's syndrome; Cushing's syndrome, and, rarely, Simmond's disease (pituitary cachexia).

"Advance will continue along two lines: First, it will be made in the laboratories. We have attempted to present some of the contributions (and confusion) to be found in the laboratory study of the anterior lobe of the hypophysis. This work is of fundamental importance, and it must be encouraged in every institution in which it is in progress. Second, advance will come from the scientific application of this knowledge to patients. Splendid results have been achieved, and physicians who have adequate knowledge of endocrine products should be encouraged to treat patients whom they can study carefully and observe closely. Advancement will be halted by the continued improper publication of the results of unplanned and mismanaged treatments of patients who received unidentified preparations for undiagnosed conditions."

The average practitioner, far removed from the great medical centers, will admit, if he is honest with himself, that endocrinology has long been both a mystery and an annoyance to him. The plethora of post-war literature upon this subject, the absurdly exaggerated and frequently conflicting claims by different writers, the multiplicity of glandular preparations so unceasingly extolled by over zealous detail men leave him confused and distrustful. Especially if he is perspicacious enough to realize that few physicians see a sufficient number of endocrinologic cases under properly controlled conditions to enable them to have very positive opinions concerning these patients.

Therefore it is indeed pleasing to read the sane and forthright report of the Rochester investigators who have so ably pointed out much that is erroneous in our knowledge of endocrinology in general and of the anterior lobe of the hypophysis in particular. Progress will continue to be made in this field, but not so rapidly as we have at times been

inclined to think. Endocrinology and physiotherapy are alike in that, while each counts many splendid scientists and fine clinicians within its ranks, both fields provide a happy hunting ground for all manner of quacks, charlatans, crooks and "indiscriminating and overly enthusiastic clinicians." And, if the former and not the latter are to prevail, the profession will do well to heed the admonitions of Rynearson and Hodgson.

THE MEDICAL PROFESSION'S PART IN AN EXPANDED HEALTH PROGRAM

At the National Health Conference held in Washington in July of this year, a Technical Committee, selected to study and report upon the health needs of the nation, submitted a "five-point" program. In substance this program embraced: (1) Extension and strengthening of existing public health services; (2) Increased hospital facilities for the needy and medically needy, particularly in rural or impoverished areas of the country; (3) Improved medical care, where needed, for the groups and areas just mentioned; (4) A general program for medical care; and (5) A program for compulsory sickness insurance covering the entire population of the United States. Throughout the several recommendations made, one sees preserved the important principle of federal cooperation with state and local governments, and with little or no tendency to destroy local autonomy. Be it ever remembered, however, that such a cooperative approach offers a distinct challenge both to organized medicine and to official health agencies. For upon their leadership and ability to develop, jointly, integrated programs for the delivery of health and medical services into the newer fields about to be undertaken—such as cancer, pneumonia and venereal disease control—the success or failure of this expanded program will largely hinge.

In the formulation of plans for this gigantic undertaking, the administrative aspects, as well as the burden of building up the machinery necessary for smooth and efficient functioning, will fall largely upon the shoulders of medical health officials, federal, state and local. The training, integrity and character of these administrative officials must be of such a high order as to inspire,

win and hold the confidence alike of the medical profession and of the general public. Political intrigue, chicanery and conniving must be relegated to the background and awards made solely on the basis of merit. Likewise, on the medical profession's part, there must be displayed a willingness to cooperate, a desire for the development of the team-work spirit so necessary for the common good, and a broadening of the individualistic concept of the treatment of disease.

It is not the intent of this program—pretentious, costly, far-reaching and long-ranged—that it should become immediately operative on all fronts; but rather to stimulate thought and planning on the part of those most deeply concerned—not the least of which is the profession of medicine, to whose membership society must turn for delivery of the service. In so far as the purely medical aspects of such an expanded program are concerned, the medical profession, because of the economic and financial handicaps of large groups of our population and the mounting costs of modern, scientific medical care, while quite mindful of existing gaps and deficiencies in the delivery of medical care, has also been deeply concerned that the *quality* of such medical care be held at a high, scientific level, and not permitted to be vitiated or degraded through efforts at wholesale distribution. Under no circumstances should *quality* be sacrificed to *quantity*. Furthermore, the intangible values wrapped up in the confidential and sacred relationship of the sick mortal to his physician, existing throughout the centuries, are precious things worthy of preservation to modern society and must not be permitted to perish.

Since the promulgation of this "five-point" program, two very significant happenings have occurred:

First, the House of Delegates of the American Medical Association, representing 110,000 of the physicians of this country, met in special session this past September and endeavoured to chart organised medicine's course, looking to its participation in such an expanded program. Critics, prone to be intolerant of organised medicine's hesitant and conservative attitude toward sudden or violent social changes, should carefully read this brief but masterful document. In it the needs for expansion and improvement, as

set forth in the Committee's report, are recognised; and, with one exception—that of compulsory sickness insurance—the principles enunciated and the remedial methods suggested therein, were, in the main, given approval. Coursing through the entire fabric is the thread of earnest desire and willingness to have the age-old profession of medicine contribute its full share toward any sound program for human betterment. The conservatism as manifested by the medical profession is deep-rooted in the teachings of history that socio-economic problems of such far-reaching scope are best solved through the studied and orderly channels of *evolution* rather than through the hastily and immaturely conceived channels of the *revolutionary approach*. In any well-formulated plans for the control of certain widespread diseases, such as the venereal diseases, pneumonia and cancer, in which the factor of treatment of the sick individual plays so important a part, the talents and counsel of the trained physician should be fully utilised, without regimentation and without lay political interference or domination. Through such an approach, and with a preservation of these principles, which the medical profession conceives to be basic, little fear need be entertained regarding the contribution to be made by organised medicine.

As a symbol of its desire and willingness to further such an expanded program, the House of Delegates appointed a committee to confer with the proper representatives looking to the development of a national health program.

The second significant happening was the action taken at the recent annual meeting of the American Public Health Association. This important national body likewise gave serious consideration to the National Health Program and through a set of resolutions gave endorsement to the aims and purposes of the program, and also selected a committee to confer with the proper representatives.

No effort was made, and wisely, by either national body to chart, at this time, definite courses of procedure. A comparison of the pronouncements emanating from these two important groups reveals a most encouraging unanimity of viewpoint on the principles involved and accord as to the objective sought; viz., a betterment and expansion of

existing health and medical services on a nation-wide scale. From such accord and better mutual understanding on the part of these agencies, cooperating with the National Government, should flow sound and intelligent programs for the accomplishment

of the purposes to be set up in any proposed National Health Program.

Unquestionably there now exists a finer and more wholesome spirit of rapprochement on all fronts than has heretofore been manifest.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

ALABAMA'S NEED FOR AN EXPANDED TUBERCULOSIS PROGRAM

By

J. N. BAKER, M. D.
State Health Officer

A few months ago the State Health Officer received from a relatively humble citizen of Alabama a letter describing with eloquent simplicity a great personal problem facing the writer and his family. This letter, while not intended for publication, nevertheless emphasizes a situation that goes far beyond the confines of that single Alabama home and really concerns every resident of the State, rich or poor. Except for the omission of the writer's name and a few other unimportant changes, it reads in part as follows:

"I have just recently read an article written by you for the Associated Press on the annual early diagnosis campaign for the curtailment of tuberculosis.

"Last winter my wife developed a cough that was thought at the time to be caused by just a common cold. Then five weeks ago I took her to a local doctor for a complete examination. He found she had tuberculosis.

"You (or the State) are putting on a campaign for the early diagnosis of tuberculosis. But I have had my wife's trouble already diagnosed as tuberculosis, and it is not yet in a dangerous stage, as the doctor says that there is not a reason in the world why it can't be cured. But what good is this diagnosis if I can't do anything to better things? I am not working, and what can I do on \$15 weekly that I receive from unemployment compensation, which is to last only eight more weeks?

"Please don't think I am criticising. But why spend money finding new cases when lots and lots of the new cases, as well as lots of old ones, are in my circumstances and can't do anything about it? This will be a grateful family if you can steer us onto a road that will lead to a solution of this grave problem."

Fortunately, the writer of this letter was a resident of one of the nine Alabama counties that maintain sanatoria for the treatment of tuberculosis. Steps were taken to insure the admission of his wife to a local institution of this kind. Thus that family's problem, which he properly described as "grave," appears to be in a fair way to being solved.

But what of the residents of the other 58 counties that do not maintain sanatoria for just such cases? And what about the tuberculous residents of these nine favored counties who cannot be admitted promptly because of the limited bed capacity of the relatively small institutions now in operation?

The largest tuberculosis hospital in Alabama is the Jefferson County Sanatorium, with a capacity of some 100 beds. These must serve the needs of a county of nearly 530,000 population, a county in which 442 tuberculosis deaths were reported in 1936, in which 762 new cases of tuberculosis were reported last year, and in which 1,372 active cases were on record on September 17.

The Montgomery County Sanatorium has a capacity of 90 beds, including those made available by the opening of the new building for Negroes. These 90 beds are all that are available for the more than 111,500 residents of the county. Yet in this county, tuberculosis deaths totaled 83 in 1936, or considerably more than the total capacity of the institution at that time, a total of 135 new cases of this disease were reported in 1937, and active cases definitely known to exist at the present time number considerably more than 600.

In Scottsboro there is a fifteen-bed sanatorium serving as best it can the tuberculosis needs of three North Alabama counties, Jackson, Marshall and DeKalb. These three

counties have a combined population of 127,916. Their 1936 tuberculosis deaths totaled 68, or more than four times the capacity of the Scottsboro sanatorium, while 136 residents of that area, or more than nine times its capacity, developed the disease last year. Active cases now listed on the records of the three county health departments total 277.

The Morgan County Sanatorium at Decatur consists of 30 beds, five of which are maintained by Colbert County. The remaining 25 beds must provide for the tuberculosis needs of a population totaling almost 51,000 living in a community in which there were 33 tuberculosis deaths in 1936, 63 reported cases in 1937, and 271 active cases at the time of the most recent check-up. In Calhoun County, where there is a sanatorium of 15 beds, there were 49 tuberculosis deaths in 1936, 69 reported cases of tuberculosis in 1937, and 153 active cases revealed by the latest tabulation. In Etowah County, the 25-bed sanatorium provides the only tuberculosis hospital care available in a community of more than 76,000 people, in which there were 42 tuberculosis deaths in 1936, 44 new cases reported in 1937, and 420 active cases a few months ago. In Mobile County, where there is a 50-bed sanatorium, there were 96 tuberculosis deaths in 1936, 244 new cases reported in 1937, and 307 active cases at the time of the most recent check-up.

Tuberculosis experts tell us that at least one bed per annual death from tuberculosis must be available if a community is to make anything approaching adequate provision for the handling of its tuberculosis problem. In the light of that estimate, it will be seen that hardly any of these nine Alabama counties is making even the most elementary provision for the care of its tuberculosis. Added emphasis is given to this condition when we consider that we have included in the number of beds available for the use of residents of a particular county all those in that county's sanatorium, although the law provides that institutions of this kind receiving financial aid from the State must make 15 per cent of their beds available for use by patients from other counties.

However, it is the rest of the State which shows how little Alabama is really doing to solve her tuberculosis problem. There are about 42 beds available in the seven county and district sanatoria for tuberculous residents of these other 58 counties—an average

of considerably less than one bed per county. Yet these 58 counties have a combined population of more than 1,800,000. In these counties 1,034 tuberculosis deaths occurred in 1936 and 1,568 new cases of this disease were reported to the State Department of Health last year. The records show that at the present time nearly 4,000 people living there are suffering from active cases of tuberculosis. The beds they now have available would have to be increased nearly 25-fold before these communities would be provided with as many beds as the tuberculosis experts consider absolutely essential for the provision of adequate sanatorium care.

Alabama's facilities for the care of her tuberculous also show up in rather a bad light when viewed from another angle. A newspaper writer pointed out some time ago that, in the United States as a whole, there was one sanatorium bed for every 1,523 people. In Alabama as a whole, there is now approximately one sanatorium bed for every 8,955 people, or slightly more than one-sixth the national average. In the nine Alabama counties providing sanatoria for their own residents, there is approximately one sanatorium bed for every 3,352 people, not including the beds reserved for patients from other counties, or less than 46 per cent of the national average. For the 58 counties having no sanatoria of their own but having the privilege of sending a small number of patients to other counties' sanatoria, there is approximately one sanatorium bed for every 42,857 people, or about 1/28th of the national average.

Such comparisons make it all too evident that Alabama is not making anything like an adequate provision for the restoration to health of those who find themselves victims of the Great White Plague, which was responsible for approximately one out of every 17 deaths occurring in this State in 1936.

Realizing both the seriousness of the tuberculosis problem in Alabama and also the inadequacy of the measures at present available for dealing with it, the State Department of Health is making the best possible use of its present facilities and, at the same time, is looking into the future and planning a long-view program which, if carried out, will undoubtedly go far toward meeting the State's responsibility to those of its people who may be stricken with the Great White Plague.

The State Department of Health is now conducting tuberculosis diagnostic clinics in various parts of the State, having on its staff one tuberculosis expert devoting all of his time to this work, assisted by x-ray technicians. In addition, it furnishes nursing care at four county and district sanatoria and has on its staff three tuberculosis experts who serve as medical directors of the sanatoria at Decatur, Scottsboro, Alabama City and Anniston and devote considerable time to diagnostic work. The Central Laboratory in Montgomery and its eight branches examined nearly 14,000 sputum specimens for tuberculosis last year, an average of nearly 40 a day, including Sundays and holidays. Of these, incidentally, more than 2,500 were positive.

The State Health Department's long-range program is centered upon the meeting of this great need for treatment. Convinced that the people of the 58 counties not maintaining sanatoria realize the need for such institutions but are unable to provide them without financial aid because of the economic conditions prevailing in those communities, it has already embarked upon a policy of providing assistance on a dollar-for-dollar matching basis up to 75 cents per patient per day. The availability of this aid, small though it is, has caused public-spirited citizens in several counties to start movements in behalf of local sanatoria. In just two or three cases these movements have been successful, and new institutions, small but well equipped and prepared to serve efficiently the limited number of patients they can accommodate, have been completed and are now in operation. Construction of another sanatorium, to provide treatment for residents of two Eastern Alabama counties, was recently started.

Encouraging though these evidences of increased interest in the tuberculosis problem are, the State Health Officer is convinced that greater financial aid must be made available if other counties are to be expected to provide sanatorium treatment, which, in literally thousands of cases here in Alabama, will replace the virtual certainty of prolonged invalidism, serious widening of the vicious circle of infection, and eventual death with their very opposites—rapid recovery, elimination of the danger of infecting others, and restoration to economic self-support and community usefulness. The

State Department of Health therefore is asking the 1939 Legislature to make it possible to carry out the original purpose of the Patterson Act by increasing the State maintenance subsidy to one dollar per patient per day. This increase, slight though it is, undoubtedly would materially brighten the outlook for sanatorium facilities more nearly adequate to the needs of the people of the State.

Committee Contributions

Maternal and Infant Welfare

MATERNITY CARE IN A RURAL COMMUNITY

Those of us who have read the Pike County, Mississippi, report on Maternal Care by Dr. Maxwell E. Lapham have found much food for thought. The nursing service of the County Health Department had under supervision approximately 30% of the total deliveries in the County from 1931-1936. It is interesting to note that the greatest increase in referred cases to the nursing service came from the patients themselves. Part of the nursing service was the stressing of the importance of medical care during the prenatal period and at the time of labor. There was 33 1/3% increase in those who went to the doctor after receiving that advice. There was an increase in the number of patients having medical care at delivery in the second period of the study. The cases seen in the 1934-1936 period were coming under nursing supervision earlier in the pregnancy than those of the first period. Cases seen first at the nine and ten-month period were decreased 13%. The number of antepartum and postpartum visits of the patients steadily increased during the six-year period.

The responsibility for the maternal mortality, stillbirths and prenatal deaths was divided between the patient, the midwife, the physician and the health department. Nearly half of the controllable deaths were found to be due to neglect on the part of the patient or her family, the remainder being divided between the others, either jointly or alone. "It is felt that the health department's services could have prevented 7% of these deaths."

In the cases where syphilis was the cause

of the stillbirths, "the responsibility was given to the patient if she did not seek antepartum care but to the physician or health department if syphilis was known but untreated." Fifty-six per cent of the cases seen by the nursing service in the six-year period had Wassermann tests made and fifty-nine per cent having positive Wassermanns received treatment during this time.

Dr. Lapham states in the introduction to "A Suggested Maternity Program": "This suggested program is based on the belief that a woman who receives adequate medical care during her entire antepartum, labor and postpartum period runs much less risk of serious morbidity or death than the woman who receives inadequate care or no care at all." The program as given is merely an outline for physicians and other health departments and should not be considered as a text for maternal care. This Committee recommends that any physician desiring a small, concise and inexpensive text on Maternal Care will find the book "Maternal Care," edited by Dr. F. L. Adair and approved by the American Committee on Maternal Welfare, to be of great value. (See April 1938 Journal for review of this book.)

Prevention of Cancer

JEFFERSON COUNTY CANCER SURVEY

Investigators in the field of cancer have long realized the need for more adequate information concerning the total incidence of cancer and its variation in geographic location, rural and urban populations and in different social classes.

The United States Public Health Service is making a study of cancer in selected areas throughout the country, and Jefferson County has been chosen as one of them. A representative of the United States Public Health Service, with advice and assistance of the local medical society and the local health department, will carry out the study. The representative will be available during the course of the survey to answer questions and assist in the filling out of the forms. Clerical assistance will be provided upon request.

As reliability of diagnosis is important, the data are collected only from doctors, hospitals and clinics. Each physician, clinic and hospital in the area will receive schedule

forms, which were made as brief as possible. To insure the determination of the time incidence of known cancer it is necessary that each item be accurately supplied according to the specified details of the form.

In order to eliminate those patients who do not reside in the selected area but who are being treated there and to avoid duplication of cases who have seen more than one physician, it is necessary to have the name and address of each patient. In this way these errors can be avoided and a true incidence of cancer rate be determined. Otherwise, the cancer rate would be larger than it actually is. This information will be treated as strictly confidential and used for statistical purposes only, and will be accessible only to employees of the United States Public Health Service.

Many factors are involved in the increasing mortality rate from cancer but better diagnostic procedures, and increased alertness of both doctors and patients are responsible for a proportion of this increase in the opinion of many authorities. But the actual incidence of cancer—the morbidity rate—is information which will be of importance to all physicians. In order to insure the determination of the true incidence of known cancer in this study, the cooperation of every physician in the area (Jefferson County in Alabama) is essential.

Your Committee on Prevention of Cancer urges each physician to cooperate in the study by giving the information requested his prompt attention.

Public Relations

HOUSE OF DELEGATES COMMITTEE MEETS WITH INTERDEPARTMENTAL COMMITTEE

Desire to keep the Association advised as to developments in connection with the National Health Program prompts the reproduction in full of statement submitted by Dr. Irvin Abell to the Board of Trustees of the American Medical Association pertaining to the conference participated in by the Special Committee of the House of Delegates with the Interdepartmental Committee to Coordinate Health and Welfare Activities and its Technical Committee on Medical Care held in Washington on October 31, 1938.

The committee appointed at the special session of the House of Delegates on September 17 to

confer and consult with the proper federal representatives relative to the proposed National Health Program assembled in Washington on October 30. The full membership of the committee, comprising Drs. Abell, Luce, Donaldson, Vest, Sondern, Rankin and Cary, with Drs. West, Sleyster, Woodward and Leland and Mr. Laux carefully reviewed and considered the reports of the five reference committees individually, together with the final report of the general reference committee as adopted by the House of Delegates, with a view of their proper and accurate presentation to the federal representatives.

The conference was held in the Labor Building on Monday, October 31, beginning at 10 A. M. and lasting until 7 P. M. with a recess of one hour for lunch. The federal representatives comprised the membership of the Interdepartmental Committee and its Technical Committee on Medical Care with the addition of Drs. Parran and Bishop. It was decided that the discussion be informal and that no stenographic record be made. It was suggested by Miss Roche that we present the action of the House of Delegates with such comments as we desired. The Chairman, Dr. Abell, then requested the chairman of each of the five divisions of the reference committee to read in turn the division reports, making it clear to the conference that these reports as such had not been passed on by the House of Delegates but served as a basis of discussion and action by the general reference committee. At the conclusion of the reading of each division report the final action of the House on each of the recommendations contained in the proposed National Health Program was given by the chairman of the general reference committee, Dr. Donaldson, and each of five recommendations or proposals was discussed separately. The discussions were held largely to principles, but little if any consideration being given to the methods of translating into action the recommendations of the Interdepartmental Committee.

Recommendation I on Expansion of Public Health Services elicited but little discussion. No comment was made by the federal representatives on our recommendation of the establishment of a federal department of health. Our committee made our position clear regarding opposition to the inclusion of the treatment of disease in this category except where this cannot be accomplished through the private practitioner. The federal representatives expressed no opposition to this attitude.

Recommendation II on Expansion of Hospital Facilities brought out an active discussion in which the discrepancies between the statistics and data assembled by the Technical Committee and those assembled by the A. M. A. were forcefully brought to the attention of the conference. It was finally suggested that Dr. Mountain of the Technical Committee and Drs. Leland and Cutter confer with a view to the adoption of uniform or similar methods in estimating the present facilities available and if possible of reconciling existing differences. The Technical Committee stressed the problem of standards to be adopted, particularly in utilizing the smaller hospitals in rural communities where the facilities afforded by

them are or might be considered inadequate, both from a standpoint of hospital service and of professional personnel. No final solution was reached but it was agreed by all that standards compatible with good service, both hospital and professional, should be maintained and that these would of necessity vary with location, size and character of service to be rendered. The present number of bed vacancies and the geographical distribution of such vacancies was considered in relation to the utilization of existing hospitals. It was agreed by all that the building of additional hospitals should be solely on a basis of need. That the suggested figure of 4.5 hospital beds per thousand of population represents a ratio of hospital needs was not accepted by our committee. The question of perpetuation of newly built hospitals and of securing competent staffs was not satisfactorily answered; the federal representatives propose a subsidy for such hospitals for a period of 3 years, after which support is to be derived from local patronage and agencies. That rural and sparsely settled communities will be able to assume this responsibility is open to question. The estimate of beds for the tuberculous on the basis of 2 beds for each death from the disease elicited a full discussion, it being pointed out that the needs vary both geographically and racially, and that a ten-year building program based on present mortality may prove entirely too large in the face of rapidly improving methods of treatment with consequent reduction in time required for hospitalization. The discussion of diagnostic centers brought out the proposed cost of each to be \$30,000.00, the equipment to include facilities for special treatments not now available in sparsely settled communities. This would indicate that such contemplated centers are to be both diagnostic and treatment with the difficulties of perpetuation and personnel to be solved by the joint efforts of local, state and federal agencies.

Under Recommendation III on Medical Care for the Medically Needy our committee called attention to the many experimental plans that have been and are being tried by the component units of the A. M. A. The Pennsylvania plan was explained in detail by Dr. Donaldson and elicited discussion on the relative merits of administration of such plans under the direction of welfare agencies, health councils and health departments. While no one plan was recommended for adoption by either committee the impression was gained that the Technical Committee regards the health departments as the central agency around which such plans should be developed. It was pointed out by our committee that the patients to be served under this recommendation do not under the present system of practice avail themselves of the services offered and it was emphasized that further provision of services should be arranged by responsible local public officials in cooperation with the local medical profession and its allied groups.

The discussion of Recommendation IV on a General Program of Medical Care brought out the controversial principles between the two committees relating to sickness insurance, voluntary and compulsory. Drs. Woodward and Leland and

Mr. Laux largely carried our side of the discussion because of their familiarity with the points at issue. The many phases of voluntary insurance covering both hospital and medical service were presented by them and the preference of such to the compulsory type was strongly urged by all the members of our committee. The House of Delegates report which "recognizes the soundness of the principles of workmen's compensation laws and recommends the expansion of such legislation to provide for meeting the cost of illness sustained as a result of employment in industry" was used by Mr. Falk in propounding a question difficult of answering to the satisfaction of the Technical Committee; namely, whether or not any difference exists between the acceptance by doctors of pay for service from compensation boards and acceptance of pay by them from a governmental, tax supported agency with free choice of physician allowed. The presentation of the fact that the compensation laws were designed to make industry carry the burdens of illness and injury incidental to its operations did not serve as a satisfactory answer to his question and possibly left him with the best of the argument. The Technical Committee stated that the group between the indigent and financially competent classes was urging the provision of medical service to which it could contribute to its financial support, the inference being that compulsory insurance would enable it to budget sickness costs. Dr. Cary made a tactfully worded appeal that the success of the entire program be not endangered by alienating the support of the medical profes-

sion in insisting on compulsory insurance. The end of the argument and discussion apparently left both committees occupying the same positions as at the start.

Recommendation V on Insurance Against Loss of Wages during Sickness occasioned little or no discussion.

The reception accorded our committee was quite friendly and the discussions evinced the same spirit on both sides. They were fruitful in bringing out a better understanding of opposing points of view and in focusing attention on the discrepancies in data and statistics on which such points of view are founded. While tentative agreement in principle, not in methods of application, was reached on four of the recommendations, the conference was stymied by the question of compulsory sickness insurance. The Interdepartmental Committee is to hold conferences with representatives of other groups, notably the American Public Health Association, the American Dental Association, the American Hospital Association and the American Nursing Association. It was suggested that our committee return at a later date for further conference presumably after the above named organizations, through their representatives, have had opportunity to express their views. If this invitation is accepted, an early date was suggested as the Interdepartmental Committee will prepare its report to be submitted to the President at the opening of the Congress when its recommendations may be embodied in proposed legislation.

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

DRUGS FOR THE TREATMENT OF MALARIA

The Malaria Commission of the League of Nations in its Fourth Report* draws certain conclusions regarding the value of the various drugs used in the treatment of malaria. These conclusions should be of particular interest to Alabama physicians. To quote from the report:

(a) Quinine

(1) Action on the trophozoites in primary infections.—A minimum daily dose of 0.50 grm. of quinine hydrochloride sometimes suffices to cause a temporary disappearance of the trophozoites of *P. vivax*; but a mean daily dosage of 1 grm. for five to seven days is often necessary to cause the trophozoites to disappear (on an average on the third day) and not to make their reappearance in the peripheral blood until after a latent period of varying length, in the course of

the first relapse. In quartan (*P. malariae*) the same effects are usually obtained. In infections with *P. falciparum*, the average effective daily dose should be fixed at about 1.30 grm. to produce analogous results. In some countries, it is even necessary to use 2 grm. in order to obtain a rapid effect upon the clinical attack and on the parasites. With the usual dose of 1 grm., the trophozoites generally disappear one day later, on the average, than in the case of *P. vivax*; sometimes their resistance continues even longer.

(2) Action on the gametocytes of *P. vivax* and *P. malariae*.—Quinine, in the doses indicated, exercises its parasitidal activities on the young forms of *P. vivax* and *P. malariae* capable of producing gametocytes, and also on fully-developed gametocytes. On the fully-developed gametocytes of *P. falciparum*, quinine has only a very slight action; but it also impedes the formation of the pregametocytes of this species. It may thus be regarded as directly schizonticidal and indirectly gametocidal with *P. falciparum*.

(3) On the acute clinical symptoms of primary infection, quinine, in the indicated doses, has a definite action from the third day onwards (second paroxysms of fever) in benign tertian; its action is less reliable or less rapid, according to the strain of *P. falciparum* concerned, on attacks of

*League of Nations, Bulletin of the Health Organization, 6: 1007-1012 (Dec.) 1937.

malignant tertian, which often continue until the fifth dose (third or fourth paroxysm).

(4) On the frequency of relapses in general, quinine has a clearly marked effect which is, however, influenced by individual factors and by the strain of parasite. The treatment of primary *P. vivax* or *P. malariae* infections with quinine in the usual doses (1 grm. daily) is followed by relapses in a proportion of individuals which may be as high as 50%.

(5) Quinine treatment with the usual doses does not affect the patient's general condition adversely and generally has no depressive or toxic effect, if the period of administration is limited to the strictly necessary number of days. In such a case, there is no good reason for thinking that this treatment hinders the processes of immunisation, but ill effects may occur when treatment is unnecessarily protracted.

(b) Atebrin

(1) Action on the trophozoites.—Atebrin in daily doses of 0.30 grm. (for adults) has a slightly more rapid action on *P. vivax* trophozoites than quinine in the usual dose of 1 grm. The trophozoites disappear on an average after the third dose, and in some cases even after the second. This parasitocidal action appears to continue for a longer period, in that the phase of latency of the disease (absence of clinical symptoms) is established more certainly and lasts somewhat longer after the end of treatment with atebrin than with quinine. On the trophozoites of *P. malariae*, the action of atebrin can be said to be of the same nature. On the trophozoites of *P. falciparum*, atebrin is equally in advance of quinine in certain cases; but the differences between the strains of parasite prevent the drawing of uniform conclusions. The trophozoites of *P. falciparum* disappear from the peripheral blood after the fourth dose of atebrin in 90% of cases.

(2) The action of atebrin on the gametocytes is of a similar nature to that of quinine; it has no effect, from the point of view of devitalisation, on the gametocytes of *P. falciparum*. But the action on gametocytes already present in the blood is perhaps slightly more marked than that of quinine, particularly as regards the gametocytes of *P. vivax* and *P. malariae*.

(3) The action on the clinical symptoms of an acute attack is very marked, both in benign tertian and in malignant tertian. In some endemic regions, where there may possibly be special strains of *P. falciparum*, the therapeutic action of atebrin is even more energetic on malignant tertian than on benign tertian. But, in other cases, the contrary seems to be true. This is why some practitioners and malarialogists in tropical countries prefer to use quinine during the first days of the acute attack and to continue with atebrin thereafter. In benign tertian the fever nearly always falls after the first three therapeutic doses of atebrin—that is to say by the second attack. In malignant tertian the fever falls almost invariably by the third attack.

(4) The action of atebrin on relapses is slightly more effective than that of quinine, especially in the case of benign tertian and of certain strains of malignant tertian.

(5) The action of atebrin on the general condition of patients seems to be determined by factors which, after this form of treatment, are still not entirely known—that is to say, by the action of the drug on the organic defenses in general and on the processes of immunisation. The yellow coloration of the skin produced by atebrin is a disadvantage, especially during prolonged prophylactic treatments.

(c) Plasmoquine

(1) Action on the trophozoites.—The action of plasmoquine on the trophozoites of *P. falciparum* is almost nil. It acts to some extent on the trophozoites of *P. vivax*, and especially on those of *P. malariae*. With small non-toxic doses of plasmoquine associated with the usual doses of quinine or atebrin, better results are sometimes obtained on the trophozoites of *P. vivax* and even of *P. falciparum*.

(2) Plasmoquine acts upon the gametocytes of the three species, but especially on those of *P. falciparum*, which are practically unaffected either by quinine or by atebrin. In minimum doses of 0.02 grm., plasmoquine devitalises the gametocytes of *P. falciparum*, and at the same time diminishes their numbers.

(3) There is no advantage in using plasmoquine alone for the treatment of the clinical symptoms of an acute attack in any of the forms of malarial infection.

(d) Combination of these three drugs

(1) The few experimental observations that have been published give no indication that there is any advantage in combining quinine and atebrin together for purposes of treatment.

(2) The association of quinine with plasmoquine represents one of the most efficacious methods of treating benign tertian and quartan malaria. Treatment with average doses (1 grm. to 1.30 grm.) of quinine-plus-plasmoquine (even only 0.02 grm. to 0.03 grm. twice a week) greatly reduces (perhaps more than any other method) the number of relapses in benign tertian (except, as already indicated, in the case of certain strains) and in some cases also in malignant tertian.

(3) The simultaneous administration of atebrin and plasmoquine appears to aggravate the toxicity of each. It is not to be advised, though it is understood to have been used without ill effects in certain communities of adult men. It should in any case not be adopted without medical supervision. Consecutive treatment with atebrin first and then with plasmoquine in suitable doses (0.30 grm. atebrin daily for five or seven days, followed by 0.02 grm. plasmoquine daily for five days) has no appreciable influence either in reducing the proportion of trophozoites in the blood or on the clinical manifestations. Like the quinine-plus-plasmoquine treatment, this method has, however, the advantage of decreasing and devitalising the gametocytes, especially those of *P. falciparum*. Moreover, from the clinical point of view, it diminishes substantially the number of relapses, both in malignant tertian and, more especially, in benign tertian and quartan.

GONORRHEA AND SYPHILIS

Patients with gonorrhea should never be dismissed as cured by the physician without doing a blood test for syphilis. Since the incubation period of gonorrhea is well within that of syphilis many cases of syphilis are masked by gonorrhea. This masking may be in the form of a urethral chancre; an excoriation or papule seemingly caused by the discharge.

Since at least 16 per cent of patients with gonorrhea develop syphilis also, it is well to make a serology follow-up in 2-3 months on every patient with gonorrhea. Some of the late disasters of syphilis could be avoided if serologic follow-up were a routine procedure with every physician treating gonorrhea.

W. H. Y. S.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

OCTOBER 1938

Examinations for diphtheria bacilli and Vincent's	2,256
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	615
Typhoid cultures (blood, feces, urine)	1,044
Examinations for malaria	2,350
Examinations for intestinal parasites	2,310
Serologic tests for syphilis (blood and spinal fluid)	14,828
Darkfield examinations	25
Examinations for gonococci	1,415
Examinations for tubercle bacilli	1,280
Examinations for Negri bodies (microscopic)	78
Water examinations (bacteriologic)	731
Milk examinations	2,286
Pneumococcus typing	17
Miscellaneous	674
Total specimens	29,909

GUM MASTIC TEST IN NEUROSYPHILIS

A demand has been expressed by numerous physicians for a test which will give more information than is afforded by the usual diagnostic precipitation test in neurosyphilis. To meet this demand the Bureau of Laboratories proposes to incorporate the Gum Mastic Test in its routine.

While the Gum Mastic Test is not, in itself, a particularly complicated procedure, the performance of the test necessitates some preliminary preparation and requires some time for its completion. For these reasons it is deemed inadvisable to make the test a

routine in the Branch Laboratories. Consequently, in order to offer this facility, it will be necessary that all specimens of spinal fluid to be examined for syphilis be sent to the Central Laboratory in Montgomery. This will mean that all such specimens received in the Branch Laboratories will be forwarded to the Central Laboratory. This procedure has the disadvantage of a slight delay in some instances in the reception of reports by the physicians. However, it is felt that this disadvantage will be outweighed by the material advantage offered through the information obtained by the physician as to the possible stage or type of neurosyphilis present. This advantage will be assured to the physician through individual letters of interpretation from the Division of Venereal Disease Control of the Bureau of Preventable Diseases.

The thought in mind in the incorporation of the Gum Mastic Test is not that it will offer a diagnostic facility in itself, but rather that, as supported by clinical findings and diagnostic precipitation results, the test will give a possible clue to tissue involvement, the type of treatment necessary and the progress of the patient under treatment.

For the complete examination as outlined above, from 3 to 5 cc. of spinal fluid will be necessary, and it should be free of red blood cells.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

THE PUBLIC HEALTH NURSE AND THE SCHOOL

The public health school nursing program has grown within comparatively recent years into a complex service. It began as a relatively simple program for the control of infectious diseases in the schools, and for follow-up in the homes, to insure treatment for children excluded from school because of infectious diseases. There are many workers concerned with the problems of child health and health education. Hence, the public health nurse has a broader program differing considerably from that which she first had. She must bring her part of the program into keeping with the whole program, and so use her opportunity for work in the school, and for school children, as to further the general public health and health education services. She, therefore, finds her work

with the school children a part of the community health program. She uses her contact with the school child and the family to promote every phase of the public health program.

By observing conditions of the school child which seem to indicate the need for medical attention, and then getting the parents to take the child to their family physician or a child health clinic, she frequently finds cases needing treatment in time for medical service to be of greatest value—that is, for early care and prevention of possible serious consequences. She instructs teachers how to make inspections of school children and in the observation of symptoms or behavior for the detection of those indications when medical attention is needed.

The health nurse assists the health officer with medical examinations of school children, and interviews children, teachers, and parents to learn about the health needs of the children. She also explains the recommendations of the examining physician, and ways of improving and promoting health. The teacher likewise should take part in conducting the medical examination of school children so that she may more intelligently carry on her part in teaching. The nurse has a definite role in the follow-up of medical examinations for urging the correction of physical defects or carrying out recommendations made by the physician. She attempts not to control or do things for children or parents but to help them to know how and to have the desire to do things for themselves and to assume their responsibilities as citizens for the health and well being of all the people in the community so far as their individual behavior is a factor.

The county health nurse also has a definite and usually effective procedure for the control of communicable diseases within the school. Such procedure is worked out by the health officer and the Board of Health and conforms with common practice and for common safety. She puts her part of the program into effect not by a perfunctory carrying out of orders or regulations because the health department says so. She uses each contact for the control of contagion to teach how the disease is spread, how to prevent this spread, and what the family should do to protect the other members and the community.

She develops working relationships with all community workers that have an interest in the whole school child. Private physicians, clinicians, welfare workers and school people are her chief allies in the promotion of the health of the school child. The public health nurse brings all other services into use in furthering the work for school children. She participates in the health education program through leadership, for the formal classroom teaching is usually left to the teacher. Nevertheless, she makes each contact an educational experience. She interprets the child's needs to the parents and teachers and uses her knowledge of community resources to help them to receive proper treatment, medical advice, home care, and school care. She brings to the school information about home conditions which helps in understanding the child's behavior and physical appearance. She assists in making every part of the school health service an aid in teaching ways of healthful living; in explaining various health services and in creating a sense of individual and community responsibility. Health is something more than having information, though without facts there will be no basis for guiding behavior or assuming responsibility.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

CONFERENCE FOR REVISION OF INTERNATIONAL CLASSIFICATION OF CAUSES OF DEATH*

The International Conference, which meets every 10 years for the revision of the classification of causes of death, met again in Paris, October 3-7, 1938. One of the changes adopted by the Conference reflected the war clouds which were hovering over Paris and other European capitols on the eve of the meeting. It was decided that hereafter, in time of war, it will be necessary, in classifying mortality, to take account separately of the number of deaths from poison gas and from wounds arising out of war, not only among persons in military service but also among civilians. It was the consensus of opinion among the vital statisticians present that, in the future, war will take a far greater toll among civilian populations than ever before and that large numbers of deaths

*Reprinted from Statistical Bulletin, Metropolitan Life Ins. Co., Vol. 19, No. 10, October 1938.

among civilians will result from wounds in bombardments and from poison gas.

While this feature, being intimately related to the recent critical situation in Europe, naturally attracts attention, the more essential developments of the Conference related to readjustments in the classification of diseases. In particular, a change in the rubrics relating to diseases of the heart will enable vital statisticians henceforth to tabulate separately the various types of cardiac lesions in which rheumatism is a reported factor.

Another important change affects what is known as Group I of the present classification, "infectious and parasitic diseases." This group will henceforth be subdivided into subgroups in order to enable vital statisticians to show the total number of deaths ascribed to diseases due to (a) bacteria, (b) protozoa, (c) spirochetes, (d) filtrable viruses, (e) rickettsiae, (f) helminths and (g) fungi.

Readjustment of the titles relating to pregnancy, childbirth, and the puerperal state will make important data available to those interested in mortality statistics for these conditions, which hitherto they have not been able to obtain. For example, in deaths resulting from abortions, account will be taken of those induced for therapeutic reasons and those otherwise induced by the woman herself or by other persons; and deaths reported from puerperal hemorrhage will be classified to show whether hemorrhage occurred before, during, or after childbirth.

Aside from the changes mentioned, the International Classification, as now revised for use during the coming decade, will correspond in most important respects to that now in use. There will be exactly the same number (namely, 200) of titles or general headings under which deaths from the various diseases and types of violence will be segregated for purposes of mortality statistics.

This 1938 meeting of the International Commission for the Decennial Revision of the International Nomenclature of Diseases marked the fifth revision of the International List. These Conferences are held every 10 years because, on account of the steady advancement of medical science, periodic changes are necessary in order to keep the classification of diseases throughout the

world abreast with the latest medical knowledge.

As was noted in the opening paragraph, the 1938 International Conference was held under decidedly less favorable conditions than those attending previous similar Conferences. Many nations which had sent delegates to the last previous meeting were not represented this year, perhaps because of the threatening international situation. Among these were Brazil, British India, China, Spain, Japan, Mexico, Persia, Poland, Sweden, Czechoslovakia and Russia. Actually represented were the United States, France, Germany, Belgium, Canada, Denmark, Great Britain, Australia, New Zealand, Hungary, Italy, Norway, Paraguay, the Netherlands, Roumania, Turkey, Venezuela and Algeria. Eighteen nations or dominions participated, as compared with 34 in the latest previous conference, held in 1929. In addition, delegates from the International Labor Bureau and the League of Nations attended.

While a number of countries had given more or less preliminary consideration to the problems inherent in revising the International List, America and Great Britain were the outstanding nations to give this subject very special study. Each sent to the meeting a group of delegates chosen for demonstrated efficiency in medical statistics. The tentative programs of America and Great Britain were in agreement in practically every important particular. A conference between the two delegations was held and many minor differences were adjusted. As a result, combined American and British opinion was dominant at the 1938 Conference, and the fifth revision of the International Classification, as finally adopted, is for the most part a reflection of the suggestions advanced by these countries.

It is particularly gratifying that the American delegation played such an important part in the 1938 International Conference. The United States sent seven representatives, four of whom are members of the American Public Health Association's Committee on Accuracy of Certified Causes of Death. This is the third such conference for which this Committee, formed 23 years ago, has been charged with the responsibility of preparing the American recommendations for revision of the International List.

These Conferences are slowly but surely making our vital statistics an indispensable adjunct of progressive medicine and effective health work, because more and more accurately and more and more fully the statistics throughout the civilized world reflect modern advances in medicine and the achievements of the public health worker.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

SEWAGE TREATMENT

SEDIMENTATION, SEPARATE SLUDGE DIGESTION AND OXIDATION

The trend of sewage treatment in Alabama is away from the septic tank and toward settling tanks, digesters and filters. In the past few years, several plants of this type have been installed by municipalities and industries.

Plants of this design usually consist of the following units: bar racks, primary clarifiers, or settling tanks, sludge digesters, sludge drying beds, trickling filters, secondary clarifiers, provisions for adding chlorine before and after treatment, and pumping equipment.

The incoming liquid sewage passes through the bar racks, into the primary clarifier, through the coarse material of the trickling filter, into the secondary clarifier, and into the receiving stream. In passing through the clarifiers, material is deposited. This material, called sludge, from both these units is pumped to a digester. When properly digested the sludge is discharged from the digester to the drying beds.

The functions and approximate degree of treatment from each process will be discussed in subsequent paragraphs.

Sewage entering the treatment plant resembles dirty dish water. It contains about 99.9 per cent water and 0.1 per cent sewage, made up of such material as soap, fecal matter, match stems, paper, animal refuse, fruit, grease and oil. This 0.1 per cent constitutes what is called the "total solids" which, for a medium-strength sewage, are about 800 pounds per 120,000 gallons of water. Three hundred of the eight hundred are in suspension, of which one hundred fifty are capable of settling in two hours. Of the total eight hundred, four hundred are organic. It is this organic portion, which, in itself, is only a small part of the total sewage, that gives

to the sewage the offensive characteristics.

Bar racks or coarse screens are usually provided ahead of any of the treatment works. They are inclined parallel bars or racks with openings of from one-half to three inches. These serve the purpose of catching such material as cloth, paper, wood and other unsightly matter. Cleaning is accomplished by mechanical equipment and raking by hand. Due to the offensive odors, screenings or rakings are usually buried in shallow trenches immediately after collection.

From the racks the sewage flows to the primary clarifier. It consists of a basin, constructed usually of concrete, which may be either circular or rectangular. The size of the tank depends on the volume of sewage to be treated. Designs in Alabama have been on the basis of a 2-hour retention, which means it takes one drop of water, theoretically, that time to pass through the tank or clarifier. While retained in this tank some of the solids are deposited. The amount varies from 40 to 75 per cent of the suspended matter, or from 120 to 225 pounds per 120,000 gallons of sewage. The reduction of bacteria is said to be from 40 to 75 per cent by plain sedimentation. In the modern clarifier, sludge collecting equipment is provided. It consists of power-driven plows, moving slowly on the bottom of the tank, which rake the deposited matter toward a sump.

At regular intervals, before becoming stale, the sludge is removed by a specially designed pump and delivered to the digester. The digester, in most instances, is a large covered concrete basin designed for 2 cubic feet per capita. In this basin the organic matter, by means of biochemical agents, is gasified, liquefied, mineralized, or converted into a more stable organic material. If the process is allowed to continue long enough, the resultant sludge will be inoffensive, reduced in bulk, may be dewatered, dried, and made more suitable for use as a fertilizer. The digester may be so designed and equipped as to utilize the gas formed to heat buildings and in some cases operate combustion engines.

Sludge beds, which consist of sand laid on gravel and underdrains, are constructed in order to dry the digested sludge.

The settled sewage from the primary clar-

ifier is discharged at short intervals to a trickling filter. This unit is a basin provided with underdrains and a coarse material such as broken stone, slag or clinkers. Sewage is spread evenly in drops, film or spray over the bed from nozzles, revolving arms, dippers or troughs. It is allowed to trickle through the bed to the collection system from which it is delivered to the secondary clarifier. The stone, which acts as the filter material, becomes coated with a film of slime. Certain bacteria thrive in this slime, and convert the unstable organic matter in the sewage to stable organic compounds, to mineral matter, to gases, and to "humas" like solids. It is the volume of "humas" that unloads from the filter, periodically, that necessitates the secondary clarifier.

In general, the efficiency which may be expected from a trickling filter is 60 to 85 per cent of organic removal and 70 to 85 per cent of bacteria removal.

The secondary clarifier or settling tanks are designed as described for primary units. The deposited sludge, or "humas," is pumped to the digester exactly as that from the primary tank. The overflow of settled sewage is then discharged from the treatment works. The treated sewage usually enters a near-by stream.

Chlorine may be fed to the raw sewage coming into the plant and to the effluent leaving the plant by means of equipment manufactured to deliver measured quantities of this chemical.

Chlorine serves to control the odors of the sewage while passing through the plant and for sterilization of the effluent leaving the plant.

In summing up the treatment of sewage by primary and secondary sedimentation, filtration and sterilization, it may be said that the effluent produced should be practically stable. In other words, it should have been processed to a point sufficient to insure reasonable acceptance from the standpoint of odors.

A. N. B.

1939 MEETING
M. A. S. A.
MONTGOMERY

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1938

	Sept.	Oct.	Estimated Expectancy Oct.
Typhoid	65	35	63
Typhus	42	60	25
Malaria	1213	1468	858
Smallpox	3	3	1
Measles	59	34	28
Scarlet fever	61	152	192
Whooping cough	77	95	56
Diphtheria	155	277	291
Influenza	76	144	76
Mumps	13	33	14
Poliomyelitis	15	11	6
Encephalitis	3	1	1
Chickenpox	6	19	22
Tetanus	6	9	7
Tuberculosis	221	268	279
Pellagra	32	35	28
Meningitis	9	10	6
Pneumonia	115	172	75
Syphilis	1713	1880	204
Chancroid	7	9	7
Gonorrhea	245	284	178
Ophthalmia neonatorum	0	1	1
Trachoma	0	0	0
Tularemia	0	0	0
Undulant fever	8	4	5
Dengue	0	0	0
Amebic dysentery	1	4	0
Rabies—Human cases	0	1	0
Positive animal heads	40	36

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Book Abstracts and Reviews

The Practice of Medicine. By Jonathan Campbell Meakins, M. D., LL. D., Professor of Medicine and Director of the Department of Medicine, McGill University; Physician in Chief, Royal Victoria Hospital, Montreal; formerly Professor of Therapeutics and Clinical Medicine, University of Edinburgh; Fellow of the Royal College of Physicians, London; Fellow of the Royal College of Physicians, Edinburgh; Honorary Fellow of the Royal College of Surgeons, Edinburgh; Fellow of the Royal College of Physicians, Canada; Fellow of the American College of Physicians. Second edition. Pp. 1,413. Cloth. Price, \$12.50. St. Louis: The C. V. Mosby Company, 1938.

Meakins' "Practice of Medicine" is a classic. It is obviously written by a man who knows how to teach and is willing to break with tradition in the form of presenting his material. His classification of diseases is original. He has realized the value of illustrations and for the first time the student can find a text-book on the practice of medicine filled with valuable charts, pictures and diagrams. His introduction is a beautiful essay on etiology, symptomatology and treatment in general. Each disease is described briefly. There is no controversial matter, no theoretical discussions. These descriptions are practical—intended for practitioners rather than investigators. If the reader fails to find the information complete enough to serve as a reference book, he can find at the end of each section a brief bibliography containing a list of outstanding papers dealing with the subject under discussion.

In this second edition have been included the following subjects: appendicitis, diseases of intestinal absorption, acute laryngotracheobronchitis, tuberculous tracheitis, cysts of the lung, Friedlander's pneumonia, lipoid pneumonia,

monocytic leukemia, nutritional edema, protamine-zinc insulin, experimental nephritis, vascular renal failure, congenital aplasia of kidneys, uremic state, sulphanilamide therapy, lymphogranulomatosis inguinale, epidemic pleurodynia and cannabis indica intoxication.

C. K. W.

Syphilis, Gonorrhea and the Public Health. By Nels A. Nelson, B. S., M. D., F. A. P. H. A., Director of Genito-Infectious Diseases, The Massachusetts Department of Public Health; and Gladys L. Crain, R. N., Epidemiologist, Division of Genito-Infectious Diseases, The Massachusetts Department of Public Health. Cloth. Price, \$3.00. Pp. 359, with 7 illustrations. New York: The Macmillan Company, 1938.

This book is designed primarily for health officers, nurses and social workers, but it should be enlightening to physicians and others interested in the control of venereal diseases.

Syphilis and gonorrhea are discussed in some detail. One chapter is devoted to chancroid, granuloma inguinale and lymphogranuloma inguinale.

The prevalence and incidence of syphilis and gonorrhea with their present day limitations are admirably presented.

The means and method of controlling syphilis and gonorrhea are discussed. One chapter is devoted to administration of the program and how the various workers in venereal disease control work can correlate their numerous duties and activities in order that there will be no lost motion and duplication.

W. H. Y. S.

Diseases of The Chest and The Principles of Physical Diagnosis. By George W. Norris A. B., M. D., formerly Professor of Clinical Medicine in the University of Pennsylvania; Chief of Medical Service "A," Pennsylvania Hospital; Erstwhile Colonel, M. C. U. S. Army; and H. R. M. Landis, A. M., M. D., Sc. D., formerly Professor of Clinical Medicine in the University of Pennsylvania. Sixth edition, revised. Pp. 1,019 with 478 illustrations. Cloth. Price, \$10.00. Philadelphia and London: W. B. Saunders Company, 1938.

The arrangement is different from that of most books on the same subject, but a full index affords all assistance necessary. The various subjects are treated with a directness and thoroughness which render the text valuable as a reference book. However, it is the opinion of your reviewer that the greatest value of this book is for teaching. That does not mean that it is not valuable to those of us who are continuing our studies out in general practice, but there are sections on physical diagnosis which, although excellent, would, I dare say, be skipped over by the average physician.

It is of interest to note that in the preface the authors state their intention to stress regular clinical methods of diagnosis in order to stimulate an independence of the many and expensive laboratory methods. This has been somewhat overdone by devoting only part of a page to x-ray diagnosis of diseases of the lungs, and then giving an entire chapter to the same method in the section on diseases of the heart and great vessels. It is evident that the authors do not agree as to the very great need for every possible diagnostic aid by the general practitioner. The indefinite terms of pseudo-angina and chronic myocarditis are discussed and their disuse is advocated.

There are nearly five hundred illustrations, a large number of these demonstrating pathologic conditions. These materially enhance the value of the book which even without them would be a good investment.

B. W. C.

The New Born Infant: A Manual of Obstetrical Pediatrics. By Emerson L. Stone, M. D., Associate Clinical Professor of Obstetrics and Gynecology, School of Medicine, Yale University; Attending Obstetrician and Gynecologist to the New Haven Hospital, New Haven, Conn. Second edition, revised and enlarged. Cloth. Price, \$3. Pp. 291. Philadelphia: Lea and Febiger, 1938.

Dr. Stone's revision of his well known work aims to survey the physiologic and pathologic aspects of the new-born infant with particular emphasis on the added knowledge of the past decade. The data are presented in a concise and orderly manner with a minimum of repetition. As an obstetrician he displays a comprehensive understanding of his own specialty as well as that of pediatrics.

It is an appalling fact that, in spite of the rapid advances made in medical science during the twentieth century, the infant mortality rate for the first week of life has shown little improvement. In contrast, the mortality rates for infants from one week to one year of age were reduced 53% from 1916 to 1934. The rate for the first week was only 10% less at the end of this eighteen-year period. There are four main factors causing these distressing figures, namely, (1) maternal complications, such as toxemias, antepartum hemorrhage, systemic disease (syphilis), etc.; (2) inexpert obstetric care, including inadequate antenatal supervision; (3) prematurity; and (4) poor neonatal care. More effective results can probably be accomplished by the doctor in the prophylactic field of obstetrics than in pediatrics. Most of the errors responsible for the baby's death have already been committed before his birth.

An important conclusion of the author regarding recent thought in treatment of syphilis needs emphasis. Once a woman is a syphilitic she must have continuous antileptic treatment during each and every subsequent pregnancy regardless of Wassermann reaction. He says: "The overwhelming majority of opinion favors early and continuous treatment of the syphilitic woman in pregnancy regardless of age of the infection, or of previous therapy."

The contents of "The New-Born Infant" should not be accepted as gospel. Some of the subjects discussed are of a controversial nature; for instance, it is not generally believed by pediatricians that enlargement of the thymus is a factor in infant mortality. Also Dr. Stone would not find many supporters in his recommendation to do repeated lumbar punctures when the spinal fluid reveals blood in suspected cases of cerebral birth injury; or in giving a new-born mineral oil by nose for constipation—and incidentally increase nasal resistance to infection.

This excellent treatise on obstetrical pediatrics, concerning itself with the most crucial period in life, deserves to be read and studied by all doctors whose practice includes the care of mothers and babies.

W. E. B.

The Pneumonias. By Hobart A. Reimann, M. D., Professor of Medicine, Jefferson Medical College, Philadelphia; formerly Professor of Medicine, University of Minnesota; formerly Associate Professor of Medicine, Peking Union Medical College, Peking, China. With a Foreword by Rufus Cole. Pp. 381 with 111 illustrations. Cloth. Price, \$5.50. Philadelphia and London: W. B. Saunders Company, 1938.

The very title of Reimann's book indicates that it is different from any other medical book. It deals with the subject of "The Pneumonias" in contrast with "Pneumonia." As the title indicates, the author considers pneumonia as only a syndrome, the cause of which may be not only any of the various types of pneumococci but various other cocci, bacilli, filtrable viruses or moulds. Pneumonia also occurs as part of certain specific diseases such as tuberculosis, tularemia, undulant fever, typhoid, diphtheria, plague, glanders, rheumatic fever, lues, typhus fever and some metazoal diseases. Pneumonia then becomes a rather complex subject.

The author has described beautifully the clinical picture of pneumonia, its etiologic and pathologic background, the characteristics of the disease produced by each type of pneumococcus, the essential diagnostic procedures and the methods of typing sputum. The prognosis with and without serum therapy is presented and one is convinced of the value of immune serum. The details of treatment of the disease and its complications are well described.

About one-half of the book having been devoted to pneumococcus pneumonia, an equal space is devoted to pneumonias due to the streptococcus, staphylococcus, Pfeiffer's bacillus, pertussis bacillus, Friedlander's bacillus, tubercle bacillus, Pasteurella pestis, influenza virus, psittacosis virus, monilias, and other factors such as oil, radiation, chemical or allergic.

The reader will be impressed by the complexities of the subject of the pneumonias and will not be satisfied by such adjectives as lobar, type II pneumococcus, or atypical streptococcus pneumonia or tuberculous pneumonia. This necessity for diagnosis based on etiology is essential if proper therapy is to be instituted.

With the recently aroused interest of doctors and the public in the subject of pneumonia and serum therapy, this volume should be in great demand. It is not a text-book but rather a monograph. The physician will find it a useful guide in the treatment of a disease he may see but rarely but which always requires prompt and vigorous treatment.

C. K. W.

A Synopsis of the Diagnosis of the Acute Surgical Diseases of the Abdomen. By John A. Hardy, B. Sc., M. D., F. A. C. S. Pp. 345 with 92 illustrations. Cloth. Price, \$4.50. St. Louis: The C. V. Mosby Company, 1938.

This book is more than a synopsis of acute abdominal conditions. It is a small book in size only. It contains a wealth of valuable material. Cope's book on "The Acute Abdomen" is much briefer, less detailed and more suited to the student, while Hardy's book is for the graduate or the practicing physician.

Realizing the need for prompt and accurate diagnosis of acute abdominal diseases, the author

has presented the facts relating to differential diagnosis in such a way that they may be easily memorized and kept available for use when the need arises.

The acute abdominal emergencies described include the following: torsion of the abdominal structures, intra-abdominal injuries, traumatic diaphragmatic hernia, acute pancreatitis, perforation of ulcers, ectopic pregnancy, embolism and thrombosis of mesenteric vessels, rupture of the uterus, ovarian bleeding, tuberculous peritonitis, peptic ulcer, cancer of the stomach, acute and chronic appendicitis and cholecystitis, acute peritonitis, diverticulitis, acute salpingitis, intestinal obstruction, urinary lithiasis and liver abscess.

C. K. W.

Doctors, I Salute! By Emilie Conklin. Pp. 93. Cloth. Price, \$1.00. Winona Lake, Ind.: Light and Life Press.

To most people, it is a pretty far cry from bacteria to ballads, from operations to odes, from postmortems to poetry, from sanitation to sonnets, but not to the author of this volume, which sets out to glorify in verse the doctor and his work. Not only is this purpose made plain in the titles of the book and in the individual poems, but Miss Conklin goes even farther. The work is "affectionately dedicated" to "the healers of the world, those whose lives are dedicated to the relief of pain and distress."

There are no less than 72 poems in this collection, most of them, a credit line points out, having appeared originally in several newspapers. The subjects range from "Dentists Are Doctors" and "Hospital Chiefs" to "Golden Trail" and "Alone," and in the table of contents are to be found verses devoted, it would appear, to practically every phase of the healing art.

A few of these poems have other than medical subjects. One, for instance, is called "Dawn," and does not mention doctors and their work at all. Equally foreign to this theme are "In a Cathedral," "Requiescat," "A Memory" and several others. These, however, are exceptions. The volume figuratively has about it the smell of the operating room and the doctor's office.

Miss Conklin reveals a thorough knowledge of medicine's nontechnical side, leading the reader to believe strongly, in the absence of other proof, that she has received training as a nurse. On the whole, she has done a good job of describing this aspect of life in the language of poetry.

J. M. G.

Cancer: With Special Reference to Cancer of the Breast. By R. J. Behan, M. D., Dr. Med. (Berlin), F. A. C. S., Co-Founder and Formerly Director of the Cancer Department of the Pittsburgh Skin and Cancer Foundation, Pittsburgh, Pa. Pp. 813 with 168 illustrations. Cloth. Price, \$10.00. St. Louis: The C. V. Mosby Company, 1938.

This book deals with cancer in general, as far as etiology is concerned, and cancer of the breast as far as pathology, symptomatology, diagnosis and treatment are concerned. One hundred thirteen pages are devoted to etiology of cancer. It would seem that every theory which has been advanced is discussed in greater or less detail. One section dealing with trauma as a causative factor

in the production of cancer would seem to be particularly valuable from a medicolegal point of view, as a great number of authorities are quoted in regard to their impressions and statistics relative to this matter.

A short discussion of pathology of tumors in general is included, but the greater portion of the pathological discussion relates to cancer of the breast. Under the term pathologic physiology, the author has a comprehensive discussion of chemical alterations of the body fluids and tissues as related to malignancy. The anatomy of the breast, with particular reference to lymphatic drainage, is well presented. The symptomatology is average. What seems off hand to be an undue amount of space is given to studies on etiology of cancer, none of which is thought to be of any particular value, but the author explains this as due to his desire to place in one volume the results of experimental work which has been carried on by a number of well trained men in the hope that the perusal of this section might spur some individual on to the desired goal—the discovery of the true etiology of cancer.

A good portion of the book is devoted to general consideration of treatment, operative treatment, sequelae of cancer of the breast, metastases and irradiation therapy.

In all, the volume is considered by the reviewer to be a valuable addition to the library of the research worker or surgeon. I know of no other one volume dealing with cancer of the breast which contains anything like the amount of useful and interesting information.

J. L. B.

Obstetrical Nursing. By Carolyn Conant Van Blarcom, R. N., formerly Assistant Superintendent and Instructor in Obstetrical Nursing and the Care of Infants and Children at the Johns Hopkins Hospital Training School for Nurses. Author of "The Midwife in England." "Getting Ready to Be a Mother." Third edition. Pp. 651 with 251 illustrations and 12 charts. Cloth. Price, \$3.00. New York: The Macmillan Company, 1938.

Several textbooks for any one course of study make the course a valuable one but often it is necessary that a textbook cover the whole course of study. Van Blarcom wrote such a book on Obstetrical Nursing in 1922. The second edition in 1933 had several important changes made in its revision. Student and teacher alike have found the summary at the end of each chapter very helpful. The third edition which was published this year has retained this feature as well as the excellent glossary.

It is interesting to see the rapid changes in the amount of space given to prenatal care in the first edition as contrasted with this one. The author has gone into greater detail in many phases and especially in the division given to maternal impressions.

The chapters on nutrition and mental hygiene have been rewritten and the newer knowledge added. There are many new illustrations to help the student nurse in her practical work. Of especial interest to those interested in the history of maternal care is Part VI on the Maternity Patient in the Community. As in the past, this very estimable book is very conservative though the au-

thor has reflected the methods of many institutions rather than any particular one. This, of course, makes of the text one which can be readily used in many localities.

It was with considerable surprise that the reviewer found that the division on syphilis still advocated that after adequate treatment a patient might omit her treatment during subsequent pregnancies. Syphilologists have in general accepted the cooperative clinical studies as the basis for treatment of syphilis. In these studies (Vol. 17, No. 2, Feb. '36), it is stated that every woman who has had syphilis regardless of her serologic findings (spinal fluid and blood Wassermann) should have early and continuous treatment throughout every pregnancy if "congenital syphilis is to be completely controlled."

As a whole *Obstetrical Nursing* is a book which any nurse and especially the public health nurse will find useful if she keeps in mind this newer concept of antileptic treatment for prenatal cases.

E. F. D.

Feminine Hygiene in Marriage. By A. F. Niemoeller, A. B., M. A., B. S., Author of *American Encyclopedia of Sex*, *Men Past Forty*, etc. Pp. 155. Cloth. New York: Harvest House, 1938.

Feminine hygiene as defined by the author is "means of promoting and preserving health but in particular health in those aspects that are peculiar to woman in her individual and characteristic functions or organs." He goes on to say that "feminine hygiene is a problem for each and every woman alive, regardless of age, station, or condition of life and to an extent is governed by these circumstances." "It is necessary to each of them but to each differently." The book is concerned with only the phase—that of the married woman, though in no sense is this a marriage manual—nor one for self-treatment of disease conditions.

There is a constant use of both lay and scientific terms and definitions such as urethra or "passage through which urine is voided" which certainly makes for easier lay reading.

The author constantly advises against patent medicines and self-treatment though he does mention some of the common family remedies. He urges the woman to consult a physician if and when various conditions arise. The chapters on vaginal discharges and douching might be read to advantage by physicians, who in the past have been all too prone to assume that some leucorrhea is to be expected in married women especially if they have borne children. Many women when asked if they have discharge will reply at first, "no," but when further questioned will qualify the no "to only the normal amount," not realizing that there is no normal amount, except that of the menstrual flow and the temporary discharges which occur as a result of emotional reactions.

To some ultra-sensitive women the chapters on venereal diseases may be rather disturbing though the approach and discussion are intended to show women the need for prevention and early and continuous treatment.

The chapter on the change of life should bring to women a clearer understanding of this phe-

nomenon and makes this period an easier time than many expect.

There are some opinions expressed by the author with which some authorities might disagree but taken as a whole "Feminine Hygiene in Marriage" is a book which wives might read with great benefit and which physicians may recommend to their patients.

E. F. D.

Truth About Medicines

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Antimeningococcic Serum, Concentrated and Refined—Gilliland.—An antimeningococcic serum (New and Nonofficial Remedies, 1938, p. 395) which has been refined and so concentrated that 10 cc. is equal to at least 40 cc. of the whole (unrefined) serum. The concentrated serum is equivalent in activity to several times the quantity of unconcentrated serum. The concentrated serum is desirable for intravenous administration and for intraspinal administration where often it is possible to withdraw only small amounts of spinal fluid, as in children. The serum is tested for its precipitin and agglutinin content in mice and is standardized according to the requirements of the National Institute of Health. It is marketed in packages of one 10 cc. double end vial and in packages of one 10 cc. double end vial with sterile intraspinal needle and improved gravity injecting outfit. Each package includes a vial of a 1:10 dilution of this serum for determining the sensitivity of the patient. The Gilliland Laboratories, Inc., Marietta, Pa.

Tablets Nicotinic Acid, 50 mg.—Each tablet contains nicotinic acid (The Journal, July 2, 1938, p. 27), 50 mg. John Wyeth & Brother, Inc., Philadelphia.

Tablets Nicotinic Acid, 100 mg.—Each tablet contains nicotinic acid (The Journal, July 2, 1938, p. 27), 100 mg. John Wyeth & Brother, Inc., Philadelphia.

Sulfanilamide-Abbott, 1 Gm. Ampoules (Crystals).—Each ampoule contains sulfanilamide-Abbott (The Journal, March 12, 1938, p. 815) 1 Gm. Abbott Laboratories, North Chicago, Ill.

McKesson's Cod Liver Oil Concentrate in Oil, 6 cc.—A concentrate of the nonsaponifiable fraction of cod liver oil adjusted to a potency, by dilution with corn oil, of 58,000 units (U. S. P.) of vitamin A per gram and not less than 5,880 units (U. S. P.) per gram. It possesses the therapeutic properties recognized for the vitamins present in cod liver oil. McKesson & Robbins, Inc., Bridgeport, Conn.

Estrone-Abbott.—A brand of estrone (theelin)—N. N. R. (The Journal, August 27, 1938, p. 784). It is marketed in the form of ampoules estrone, 0.1 mg. (1,000 international units) in oil, 1 cc.; ampoules estrone, 0.2 mg. (2,000 international units) in oil, 1 cc.; ampoules estrone, 1 mg. (10,000 international units) in oil, 1 cc.; vaginal suppositories estrone, 0.02 mg. (200 international units); and vaginal suppositories estrone, 0.2 mg. (2,000 international units). Abbott Laboratories, North Chicago, Ill.

Estriol-Abbott.—A brand of estriol (theolol)—N. N. R. (The Journal, August 27, 1938, p. 784). It is marketed in the form of capsules estriol 0.06 mg. and capsules estriol 0.12 mg. Abbott Laboratories, North Chicago, Ill.

Pulvoids Digitalis Folium, $\frac{1}{2}$ grain.—Each pulvoid represents one-third cat unit digitalis (New and Nonofficial Remedies, 1938, p. 186). Drug Products Company, Inc., Long Island City, N. Y.

Pulvoids Digitalis Folium, $\frac{3}{4}$ grain.—Each pulvoid represents one-half cat unit digitalis (New and Nonofficial Remedies, 1938, p. 186). Drug Products Company, Inc., Long Island City, N. Y.

Pulvoids Digitalis Folium, $1\frac{1}{2}$ grains.—Each pulvoid represents 1 cat unit digitalis (New and Nonofficial Remedies, 1938, p. 186). Drug Products Company, Inc., Long Island City, N. Y.

Diphtheria Toxoid, Alum Precipitated (Refined) (New and Nonofficial Remedies, 1938, p. 417).—This product is also marketed in packages of one 10 cc. vial (ten immunizations). Jensen-Salsbery Laboratories, Inc., Kansas City, Mo.

Propadrine Hydrochloride Capsules, $\frac{3}{4}$ grain.—Each capsule contains propadrine hydrochloride—Sharp & Dohme (New and Nonofficial Remedies, 1938, p. 237), $\frac{3}{4}$ grain. Sharp & Dohme, Philadelphia.

Propadrine Hydrochloride Solution 3%.—An aqueous solution containing 3 per cent propadrine hydrochloride—Sharp & Dohme (New and Nonofficial Remedies, 1938, p. 237) and 0.5 per cent chlorbutanol as a preservative. Sharp & Dohme, Philadelphia.

Refined Tetanus Toxoid, Alum Precipitated—Squibb.—A preparation of tetanus toxoid, alum precipitated (New and Nonofficial Remedies, 1938, p. 424) marketed in packages of two 1 cc. vials (one immunization treatment). The preparation contains merthiolate 1: 10,000. E. R. Squibb & Sons, New York.

Cevitamic Acid—Abbott.—A brand of cevitamic acid—N. N. R. (New and Nonofficial Remedies, 1938, p. 480). It is marketed in the form of tablets, 0.025 Gm., and 0.1 Gm. Abbott Laboratories, North Chicago, Ill.

Ephedrine Alkaloid Anhydrous—Gane and Ingram.—A brand of ephedrine anhydrous—N. N. R. (New and Nonofficial Remedies, 1938, p. 225). Gane & Ingram, Inc., New York.

Ephedrine Alkaloid Hemihydrate—Gane & Ingram.—A brand of ephedrine hemihydrate (New and Nonofficial Remedies, 1938, p. 226). (Gane & Ingram, Inc., New York. (J. A. M. A., Oct. 1, 1938, p. 1301).

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Ohio Oropharyngeal Catheter Outfit.—This unit is designed for the therapeutic administration of oxygen. The multistage regulator is supplied with screw connection fitting large cylinders used for industrial purposes but may be adapted to small tanks used for medical purposes. The humidifier consists of two water jars and a trap jar, so constructed that the oxygen passes through each in succession. The firm claims that the humidifier delivers a high concentration of oxygen, properly humidified, continuously over long periods of time. The unit was investigated in a clinic acceptable to the Council and appeared to be satisfactory. Ohio Chemical and Manufacturing Company, Cleveland. (J. A. M. A., Oct. 8, 1938, p. 1379).

S. O. S. Oxygen Therapy Humidifier.—This unit is designed to humidify oxygen used in oxygen therapy by breaking the stream of gas into minute bubbles. According to the firm, this enables the oxygen to be more thoroughly saturated with water vapor than is possible with the ordinary wash-bottle humidifier. The firm states that the humidifier will produce from 80 to 90 per cent saturation of water vapor to the oxygen passing through. This permits pharyngeal insufflation over long periods of time without irritation to the mucous membranes in the nasal passages. The unit was examined by an investigator acceptable to the Council. The humidifier furnished from 65 to 80 per cent humidity under ordinary conditions. The investigator stated that the humidifier appears satisfactory at present. Oxygen Equipment and Service Company, Chicago.

Compresx Cautery, Anniversary Model.—The Anniversary Model Compresx Cautery and Diagnostic Light is a small portable unit designed for cauterization purposes. It is similar mechanically to the Compresx Cautery and light transformer No. 201 (accepted, The Journal, May 31, 1930, p. 1760) but has a different housing which is claimed to improve its appearance and convenience. Accessories include a pistol-grip handle with spot light located above the tip and a choice of any of three standard tips. The unit operates on alternating current. The pistol-grip handle, which is boilable, holds the cautery electrode at a comfortable angle for applications, according to the firm. It is also claimed that the small built-in headlight provides unobstructed illumination of the operating field. Both the cautery and light are said to be shockproof and ground free, in addition to being individually regulated. The unit was investigated clinically and found to render satisfactory service. Compresx Division American Cystoscope Makers, Inc., New York. (J. A. M. A., Oct. 15, 1938, p. 1469).

PROPAGANDA FOR REFORM

Colloidal Sulfur in the Treatment of Chronic Arthritis.—The Council on Pharmacy and Chemistry has reviewed the literature concerning the use of colloidal sulfur in the treatment of arthritis, and reports that sulfur may have some therapeutic value in affording temporary symptomatic relief in

some forms of arthritis, but the literature does not afford evidence concerning the type of cases in which it may be useful. It often induces fever (and other symptoms) but it is not known whether the fever will be useful or harmful in a given case. There is an almost total lack of knowledge concerning the contraindications. The optimum dose has not been determined. It is unsuited for experimental use except in institutions, or under other conditions in which its effects may be followed intelligently and accurately for prolonged periods. It would seem to be of great significance that not one of the leading arthritis clinics of the United States has adopted the use of sulfur in the treatment of arthritis, so far as can be determined. The Council voted to accept no form of sulfur for the treatment of arthritis until satisfactory evidence of its usefulness is available. (J. A. M. A., Oct. 29, 1938, p. 1657.)

Drugs in Treatment of Arthritis.—The Council on Pharmacy and Chemistry in its report on colloidal sulfur in the treatment of arthritis points out that before acceptance satisfactory evidence must be produced that sufficient controls have been employed and that follow-up periods of sufficient length to rule out spontaneous remissions have been observed. Further, the types of cases in which the preparation may be used with a fair expectation of benefit must be determined and the chief contraindications, optimal dosage and best form and route for use must be defined. These criteria as outlined for sulfur therapy in arthritis could well be employed in assessing the value of any other of the many drugs employed in this chronic and clinically variable disease. While considerable skepticism as to the value of colloidal sulfur in arthritis has previously been expressed elsewhere, this report of the Council should serve to crystallize the objections to accepting this form of therapy as in any way scientifically established. (J. A. M. A., Oct. 29, 1938, p. 1662.)

Deaths Following Elixir of Sulfanilamide-Massengill: VIII.—About a year has passed since The Journal first announced the deaths which followed the administration of Elixir of Sulfanilamide prepared and sold by the S. E. Massengill Company of Bristol, Tenn. Preliminary tests at that time showed the poisonous fluid to consist essentially of 40 grains of sulfanilamide to the fluidounce of a menstruum containing approximately 72

per cent of diethylene glycol by volume, with flavoring. Within two weeks after the first editorial was published the A. M. A. Chemical Laboratory had confirmed the preliminary tests and reports were published under its auspices, showing that the toxic ingredient was diethylene glycol. During the first few weeks of the tragedy the United States Food and Drug Administration traced all shipments and removed them from the market. Federal inspectors also traced deaths reported in local communities. The number of deaths reported by government investigators as due to the "elixir" totaled close to a hundred. The only basis of action under the Food and Drug Act, as pointed out by Secretary Wallace, was the allegation that the word "elixir" implied an alcoholic solution, whereas the product was a diethylene glycol solution—notwithstanding the fact that there was evidence of danger from internal administration of diethylene glycol prior to the marketing of Elixir of Sulfanilamide-Massengill. The unwarranted carelessness on the part of a pharmaceutical house awakened Congress and officials of the government to the necessity of taking action to protect the public. Congress passed a bill providing that no new drug or any modifications of old drugs may be placed on the market until the entire formula has been submitted to the Food and Drug Administration of the United States Department of Agriculture and the firm licensed to market the drug. Congress further enacted the long overdue Food and Drug Act. The Department of Justice, with the Food and Drug Administration, instituted legal proceedings against Samuel Evans Massengill, owner of the Massengill Company. October 3 the defendant's counsel pleaded guilty to fifty-six counts charging that the drug was adulterated when it was shipped in that its purity fell below the proposed standard under which it was sold and fifty-six counts charging that the drug was misbranded in that the name "Elixir of Sulfanilamide" was false and misleading, and thereupon was sentenced to pay a fine of \$150 on each count, making a total of \$16,800. In addition there are still pending against Samuel Evans Massengill sixty-two counts to be brought before the district court of Kansas City, covering shipments of Elixir of Sulfanilamide made from the Kansas City plant of the company. (J. A. M. A., Oct. 22, 1938, p. 1567).

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THE SPASTIC COLON*

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The spastic or irritable colon, frequently alluded to as the functional bowel or spastic colitis, is admittedly not a specific disease entity. It is, rather, a disturbance of bowel function reflected in one of several syndromes. The particular syndrome one observes will depend upon the manner in which this clinical disorder is manifesting itself at the time of study.

Truly, the condition does not bear the dignity of a grave prognosis but its high incidence of occurrence makes it worthy of serious consideration. In the opinion of Bockus,¹ colonic neurosis comprises from 15 to 45 per cent of the visits to internists interested in digestive ailments. In our own clinic, many patients referred for study relative to chronic abdominal discomfort are found to be suffering from a spastic colon rather than from the various organic intra-abdominal diseases suggested by their respective symptoms.

ETIOLOGY

Environmental influences and various other extrinsic factors, such as fear of disease, fatigue and the like, are most important from the standpoint of etiology. Many feel the picture to be a manifestation of an allergic state, while certain others believe it to depend upon a chronic inflammatory process in the gallbladder, appendix or genito-urinary apparatus. The consensus of opinion at the present time, however, does not favor allergy or chronic inflammatory

lesions as important etiologic agents.^{1, 2, 3, 4, 5} In the light of present information little may be said other than that the condition is a neuromuscular imbalance of the bowel not dependent upon an organic lesion.

SYMPTOMATOLOGY

In a consideration of symptomatology we may loosely classify two chief groups. Patients in the first have complaints relative to difficulty with the large bowel, while those in the second are most disturbed by symptoms referable to the stomach. When beginning a recital of the anamnesis, those of the first category usually strike a rather characteristic pose. They sit erect in the chair and place the palm of one or both hands over the abdomen corresponding to the portion of the bowel that is causing them distress. The stated nature of the discomfort is variable. Many are troubled by "tightness," others "fullness," some "soreness," while a few note intermittent "cramping" in the affected regions. Reference may or may not be made to an alteration of the bowel habit.

Palmer² points out the great diligence that should be exercised in obtaining the history of the bowel habit. If asked to describe this, and an individual action, the majority will give a characteristic story. In a certain number the stools will be said to be infrequent and associated with the difficult passage of hard, small, dry fecal masses. Those so afflicted are said to have spastic constipation. Others complain of frequent

*Read before a meeting of the Northwestern Division of the Association, Roanoke, March 15, 1938.

From the Guice-Morgan Clinic.

1. Bockus, H. L.: The Irritable Colon: Diagnosis and Treatment, *Med. Clin. N. A.*, 21: 1107-1124 (July) 1937.

2. Palmer, W. L.: The Functional Bowel, *Med. Clin. N. A.* 22: 139-151 (Jan.) 1938.

3. Wakefield, E. G.: Spastic Colitis: Functional Disorders Affecting Young and Middle-Aged Individuals, *Med. Clin. N. A.*, 21: 721-735 (May) 1937.

4. Jordan, S. M.: Spastic Colitis. *The Cyclopaedia of Medicine*, Vol. IV, pp. 42-48. F. A. Davis & Co., Philadelphia, Penna., 1936.

5. Howard, J. T.: Medical Affections of the Colon, *Med. Clin. N. A.*, 21: 1461-1479 (Sept.) 1937.

stools with the passage of what is termed "flesh," "tissue," "pus" or "cold." We, of course, recognize this ominously considered material to be simple mucus, that is either mixed with the stool or passed as mucus casts. With this picture the term mucous colitis is associated. There may be a daily passage of hard fecal mass. Regardless of the bowel habit an almost invariable symptom is the lack of relief, with a continued sense of fullness in the rectum after defecation.

An occasional patient will state that he or she has had such severe paroxysms of cramping abdominal pain as to require an opiate for relief.

Patients of the second category have little to say relative to lower abdominal discomfort until after having related symptoms referable to the stomach. They complain of postprandial epigastric distress, abdominal fullness and eructations that may or may not have been relieved by the taking of an alkali. At times nausea and vomiting are noted. Vomiting is, as a rule, self-induced, the patients having resorted to this exigency to obtain relief from their discomfort. When the vomiting becomes frequent, and is no longer recognized as being self-induced, sitophobia may be precipitated with its resultant weight loss. Pylorospasm, in association with colonic spasm, is no doubt responsible for this latter set of symptoms.

It is interesting that most patients are able to point out a fairly definite date of onset in days, months or years. Careful questioning will, almost without exception, uncover some emotional experience of significance to have occurred concomitant with the initiation of the complaint. Commonly mentioned factors are incompatible marriage, financial reverses, thwarted ambition, change in occupation and loss of work.

An unsolicited confession of nervousness and insomnia, with increased fatigue and irritability, usually concludes the present illness.

DIAGNOSIS

The diagnosis should be made by exclusion. No matter how suggestive the history, it must not lead to a carelessly done physical examination or an inadequate investigation.

Physical examination reveals an apprehensive individual who in most instances is thin, but on the contrary may be quite obese. Characteristically very little is found until

one reaches the abdomen. Here, there is tenderness over a part of the colon, or, more rarely, the entire organ. If the ascending or descending portions, or both, are involved, one may feel a firm, tender cord in their respective locations. On rectal examination the sphincter is always of good tone and, in most instances, spasm is marked. Hemorrhoids are seldom absent. Not infrequently a rectal digital study will precipitate a severe paroxysm of cramping abdominal pain typical of that which caused the patient to consult his physician.

The laboratory offers little aid of positive value but negative findings bear positive significance. The stool must be studied for ova, parasites, and relative amounts of mucus; and, most important of all, appropriate tests should be made for the detection of occult blood. The absence of the latter should always occasion a sigh of relief. Gastric analysis, the blood Wassermann reaction, a urinalysis and the usual blood work should be executed.

Direct visualization of the rectum and sigmoid is imperative and reveals a dry, smooth, glairy, slightly injected mucous membrane with, perhaps, an increased amount of mucus along the walls and in the lumen.

Skilled roentgenologic interpretation offers the most conclusive evidence available for diagnosis. It should be said that x-ray study of the colon alone will not suffice, for, quite obviously, a patient may have a spastic colon co-existing with, though independent of, organic disease of other intra-abdominal viscera. In fluoroscopic study the filling time is important. With a head pressure of $2\frac{1}{2}$ feet and a 2-quart enema of barium sulfate, previously warmed to body temperature, the rate of filling should be from 2 to 4 minutes.⁴ Where there are long delays in the passage of the barium and one is able to visualize spastic rings of contraction, hyper-irritability is unquestionably present. If there is rapid filling, with quick passage from the rectum to the cecum, hypo-irritability is indicated. Both evidence instability of the neuromuscular mechanism of the colon. After filling, in the instance of spasm, one sees areas of marked contraction alternating with areas of more than normal dilatation. The contraction may be so severe as to present a spiked or "saw-tooth" configuration which is spoken of as "predi-

verticulosis" by Bockus.¹ In the same patient, especially in the event of prolonged duration, one may see a portion of narrowing with an absence of haustrations suggestive of the "lead-pipe" bowel so commonly observed in ulcerative colitis. Information concerning preceding stool and endoscopic examinations aids the roentgenologist, particularly when the latter abnormality is present.

DIFFERENTIAL DIAGNOSIS

If the condition is limited to the right colon, organic disease of the cecum, terminal ileum or kidney may be suggested. Many patients are referred to us with the accompanying diagnosis of "chronic appendicitis" and "constipation" who are found on investigation to have a spastic colon. Their symptoms usually abate with treatment directed toward the colon. There is one school of thought that doubts the existence of chronic appendicitis as either a clinical or pathologic entity. Brooks⁶ is numbered among those who are very strong in their conviction against such being an entity. The majority of internists and most surgeons of wide experience now insist upon a spastic colon regimen before resorting to an appendectomy in cases where the possibility of chronic inflammatory disease of the appendix is considered responsible for continued or intermittent abdominal discomfort. The probable cause for the widely experienced surgeon insisting on such a plan is the painful memory of patients out of the past who have returned, following the removal of a so-called chronically inflamed appendix, with these words: "Doctor, my side hurts me just as it did before you operated on me."

With symptoms arising from such an affection of the transverse colon, cholecystic, gastric or pancreatic disturbance is brought to mind and a Meckel's diverticulum must be thought of.

When difficulty is experienced with the descending portion alone, organic disease, such as carcinoma, diverticulosis, diverticulitis and ulcerative lesions, must be ruled out.

We recently saw a patient whose history led us strongly to suspect spasm of the colon as an explanation for her abdominal pain. Investigation led to the diagnosis of Henoch's purpura.

6. Brooks, Barney: Personal Communication.

It should be mentioned that osteo-arthritis of the spine may give rise to persistent or intermittent abdominal distress. Frequently, after one has made an exhaustive but futile study of the abdominal viscera, an x-ray film of the spine is illuminating.

TREATMENT

Treatment directed toward the colon is more or less standardized. A bland diet is employed to eliminate the irritation occasioned by high residue constituents. It is significant that a great number of patients with an irritable bowel and constipation have been taking food products advertised to effect a prompt cure. In practically every instance these contain bran, or other roughage, that only adds insult to an already hyper-irritable organ. The diet should be given to the patient in written form rather than in a word of mouth manner. Its strict adherence is insisted upon.

Tincture of belladonna, or some other antispasmodic, is used to relax the bowel. For emphasis the patients should be told that it is similar to the medicine used in the eyes preparatory to refraction and that it serves to relax the bowel just as "drops" relax the pupil of the eye. The sympathicomimetic drug, benzedrine sulfate, was reported as useful in cases of functional enterospasm by Myerson and Ritvo.⁷ We have had no experience with the use of this substance as an antispasmodic.

Phenobarbital is employed in appropriate dosage twice during the day and at bed time for a week or ten days with the advice that this crutch be discarded after the regimen is fully under way.

As regards constipation, few of these individuals have retained a regular bowel habit. The long disregarded rectal reflex fails to ring the bell, so to speak. We give the directions exhibited below to our patients to aid in the reestablishment of a regular bowel habit. It is presented to them in written form and gone over carefully.

You must choose some time of day that is convenient for you and at this same time each day you must go to the stool. Until a habit is formed you must stay at the stool for ten minutes, by the clock, without straining. In addition you are to follow the directions just below:

7. Myerson, A., and Ritvo, M.: Benzedrine Sulfate and Its Value in Spasm of the Gastro-Intestinal Tract, *J. A. M. A.*, 107: 24-26 (July 4) 1936.

1st Day: Go to stool, stay 10 minutes, if no movement disregard it. Take one teaspoonful of cascara and one tablespoonful of mineral oil morning and night.

2nd Day: Go to stool, stay 10 minutes, if no movement take an enema. Medicine as on first day.

3rd Day: Go to stool, stay 10 minutes, if no movement disregard it. Medicine as on first day.

4th Day: Go to stool, stay 10 minutes, if no movement take an enema. Medicine as on first day.

5th Day: Go to stool, stay 10 minutes, if no movement disregard it. Medicine as on first day.

6th Day: Go to stool, stay 10 minutes, if no movement take an enema. Take one teaspoonful of cascara at bed time only. Take mineral oil as on first day.

7th Day: Go to stool, stay 10 minutes, if no movement disregard it. Medicine as on sixth day.

8th Day: Go to stool, stay 10 minutes, if no movement take an enema. Take one teaspoonful of cascara and one tablespoonful of mineral oil at bed time.

9th Day: Go to stool, stay 10 minutes, if no movement disregard it. Medicine as on eighth day.

10th Day: Go to stool, stay 10 minutes, if no movement take an enema. Take one tablespoonful of mineral oil at bed time.

You must continue to go to the stool at the same time each day. Continue to take one tablespoonful of mineral oil at bed time for two weeks, at the end of which time it will not be needed as a rule. The enema should be one pint of plain warm water—do not add soap.

This may appear to be a rather monotonous and time consuming method but if followed diligently the majority will be rewarded with the passage of a gratifying soft, moist fecal mass each day.

Episodes of severe, cramping abdominal pain may require hot water bottles, hot tub soaks or even morphine for relief. Parenteral fluids may be necessitated by vomiting.

The general condition of the patient must not be overlooked. In the instance of under-nutrition a high caloric diet is indicated, whereas a reduction regimen is to be employed in the face of obesity.

Sufficient rest each day, with mild ample exercise, and an adequate fluid intake, are to be encouraged.

Up to this point we have considered treatment from the somatic side only. The psychiatric phase is of equal or even greater importance. Most articles relative to this subject emanate from the large cities or teaching centers where this element of therapy is relegated to the psychiatric and

social service personnel. Wakefield,³ for instance, believes "an orderly consideration of etiologic factors" to be the most important therapeutic measure. In the smaller cities, as is Gadsden, psychiatric consultation with social service elaboration is not feasible. The entire burden of formulating a suitable plan for environmental alteration falls on the internist. Our attempts with the incorporation of such plans in treatment have been, on the whole, discouraging. In patients so constituted it has been our experience that the removal of one set of factors all too often paves the way for the development of a new set which frequently make the plight more discouraging and disabling than before the change. In our opinion the greatest psychotherapeutic weapon is the teaching of these patients to properly interpret their pain. On admission they profess a fixed fear of some organic disease. After a careful study they are willing and grateful to accept spasm of the colon as an explanation for their discomfort. They are told that their general inability to relax is reflected in the colon. The feeling of fullness in the rectum after defecation is rationalized as a spastic phenomenon to dispel the fear of a "growth" in or the "incomplete emptying" of the bowel.

It is a grave error to consider the complaints of these patients lightly, to tell them that there is nothing wrong, that they are hysterical and to be otherwise unsympathetic. In all probability, being highly sensitive individuals, they have been suffering rather marked distress.

It is helpful to draw a rough sketch illustrating the contour of the normal bowel and beside it one depicting signs of spasm. By this, hyper-irritability and its effects may be demonstrated in a tangible manner.

It is a mistake to encourage the belief that no further discomfort will be occasioned once treatment has been established, for, almost universally, there will be recurrences with emotional upsets. If, however, the subsequent attacks are interpreted as due to spasm of the colon and not as due to cancer, or some other vehicle of approaching death, each succeeding episode will be viewed more sanely. The majority educate themselves practically to disregard their symptoms.

SUMMARY

The spastic colon is a result of neuromuscular disturbance of bowel function without

dependence upon an organic lesion. Its incidence of occurrence is great. Emotional insult is the most common factor of precipitation and aggravation. The diagnosis should be made by exclusion. Treatment, which should not be attempted in the absence of a thorough investigation, consists chiefly of teaching the patients to correctly interpret their pain. The reestablishment of a normal bowel habit, the employment of a bland diet and the use of antispasmodics and sedatives are helpful adjuvants to the primary principle of therapy.

MANAGEMENT OF HYPERTENSION AND PREGNANCY*

By

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Atlanta, Georgia

THE PROBLEM

When I was invited to speak to you on an obstetrical subject, I accepted with greatest temerity, realizing fully that I would be talking with men far more experienced than I in dealing with problems and emergencies arising in this field. With a short experience in small town and country practice and with an inheritance of medicine practiced in rural Alabama, I can appreciate the problems and hard work of any one compelled to do obstetrics without the aid of a well equipped maternity. Of these problems none are so serious and spectacular as those of the hypertensive toxemias. In Atlanta, with a Negro population over 120,000 from which we draw our clinical material for teaching purposes, we have a large number of abnormal cases. When I tell you that over 2,000 babies are delivered at colored Grady annually; that 20 per cent of these are illegitimate, 30 per cent of the parents on relief or on W. P. A., and 10 per cent unemployed, you will know that they are on about the same financial and mental scale as your poorest tenant farm class, the class that offers you the greatest problems and the least remuneration. They are particularly susceptible to every hazard of pregnancy due to malnutrition, syphilis, igno-

rance, superstition and general unreliability.

Of the problems this class presents, and for that matter any class, I think the greatest is that of hypertension and the associated toxemias. It is not merely the handling of the acute emergency that is so distressing. When one investigates the devastating sequelae, then one must realize that it is our problem and duty to see that the gospel of prenatal care is spread, and that those left crippled and diseased are given the best possible chance for rehabilitation. Admittedly, far too little is known about the complex problems of the etiology of these conditions. However our main duty is, in the words of Carlyle, "not to see what lies dimly at a distance, but to do what lies clearly at hand." Therefore, that which is to follow does not lie in the realm of experimentation, but is what has been generally accepted by eminent authorities as clinically and therapeutically correct.

My purpose is to outline briefly the management of eclampsia, preeclampsia, chronic nephritis and chronic vascular disease, as done at Grady Hospital on our service, and give you a few statistics as argument for conservatism. No claim is made for originality, this type regimen being used in numerous clinics. We shall discuss, first, eclampsia and preeclampsia, since they are so often the forerunners of and precipitating factors in chronic nephritis and vascular disease.

In 1935 in Georgia, 438 women died of puerperal causes. The distressing fact is that 142 or 32.4 per cent of these deaths were complicated by eclamptic toxemia. Of these 142 women, 68 per cent had received no prenatal care or instruction whatever; 58 per cent died in their homes and 38 per cent were delivered by some form of operative procedure. These figures represent a cross section of the state of Georgia and I am sure about the same will hold for Alabama. Of the 32.4 per cent mortality for eclampsia, nothing is said of the injury to the cardiovascular-renal system that statistics prove follows toxemia and often carries these women to an early death.

An analysis of the cases of eclampsia treated at Emory University Division of Grady Hospital from 1921 to 1928 shows a gross mortality of 21 per cent. A well-defined policy of conservative management

*Read before a meeting of the Southwestern Division of the Association, Monroeville, July 28, 1938.

From the Department of Obstetrics and Gynecology, Emory University School of Medicine.

was not practiced then as now. In 1928, the present policy and methods of treatment were begun and now we have an uncorrected mortality of 6.7 per cent. Compare this with 32.4 per cent mortality for the state as a whole and the figures are convincing. With the above facts it would seem that the entire set-up for our state is inadequate. Then why do so many women die of eclampsia? Admittedly it is a disease of unknown etiology, yet enough is known of its clinical features to make it almost preventable and to a certain extent controllable.

Several reasons explain such a high death rate:

1. Poor cooperation on the part of the laity due to lack of appreciation of the importance of prenatal care.

The profession alone can make little headway toward lowering this mortality unless the public is made to appreciate prenatal care. This is being attempted through newspaper and magazine articles, various government agencies, insurance companies, etc.

2. On the part of medical profession there is a failure to discover the onset of pre-eclampsia, either on account of an indifferent attitude toward prenatal care or failure to manage it properly after it has been discovered.

3. Too frequently, pregnancies or labor complicated by toxemia are terminated by operative interference when there is no obstetric demand.

4. And last, we are in need of a more uniform, standardized and conservative treatment for preeclampsia and eclampsia.

Regarding this, we have arrived at a definite treatment that might be called radical in its conservatism, but one that has definitely reduced the mortality. I recall but two cesarean sections done for eclampsia at the Grady Hospital in a decade—one for a deformed pelvis, and the other for fetal disproportion.

Without a doubt, many cases of pre-eclampsia have been permitted to develop into eclampsia while the attendant was hopefully pursuing a course of watchful expectancy. Again, too much importance must not be placed on the life of an unborn, premature fetus. At best its chances are problematical, and more problematical should the mother develop convulsions. The Amer-

ican Committee on Maternal Welfare feels that there are too many surgeons who are not impressed with the fact that toxemic patients are poor surgical risks. Too often, women in convulsions are rushed to hospitals and immediately delivered by cesarean section. Some of them live; too many of them die.

Ideally, the management of eclampsia should begin in the early stage of pregnancy with routine prenatal care. In this way it can be differentiated from chronic nephritis and chronic vascular disease complicating pregnancy, both of which call for a different treatment. That we shall discuss later. In severe or rapidly developing toxemia, labor should be induced prior to the onset of convulsions, since, in the presence of convulsions, the management is greatly complicated.

MANIFESTATIONS OF TOXEMIA

We shall now discuss what we consider the cardinal manifestations of toxemia of pregnancy and in the usual order of their development. The appearance of any one of these should put the attendant on his guard. Actually very little equipment is needed. All we use in the outpatient department at Grady is a pair of scales, a sphygmomanometer, test tube, burner, and acetic acid to determine albuminuria. More complicated tests may be made, but a careful appraisal of the patient and the information gained through these simple tests is sufficient.

Elevation of Blood Pressure: The earliest sign of toxemia is usually an elevation of blood pressure. The blood pressure varies in different individuals and early in pregnancy may be rather low. It is important that we know what the pressure is at the beginning of the antepartum course, because a rise of 20-30 mm. may mean as much in a woman whose pressure is normally about 100 to 110 systolic as a similar rise in one that runs 120 to 130 systolic. Usually the diastolic pressure will rise first. Later, the systolic pressure will begin to ascend. As a rule, the ascent is more rapid and is followed by a gradually and persistently rising diastolic pressure. This rise in blood pressure may occur rapidly near term. For this reason it is wise to see the patient at closer intervals, particularly so when there has been a gradually rising or persistently elevated

diastolic pressure. This finding is sufficient to more than suspect toxemia and should put the obstetrician on his guard.

Urinary Changes: In preeclampsia, albuminuria is a fairly constant finding in varying amounts. Generally, after noting an increase in the blood pressure, you can look for a trace of albumin in a short time. It varies from a faint trace in early toxemia to a degree of boiling solid in advanced cases. Usually the increase of albumin is in direct ratio to the blood pressure elevation, while the two together always indicate the beginning of toxemia. The amount of urine is decreased and is of high specific gravity. The specimen should be a catheterized one, or obtained after cleansing the vulva to prevent contamination from the vagina.

Edema: When swelling of the legs and ankles is noted on arising in the morning, it usually indicates the onset of toxemia. This is not to be confused with edema due to pressure on the return circulation by the uterus causing a mechanical blocking. Edema of the face and tightness of finger rings may be complained of by the patient. This symptom should always make one wary, and cognizance taken of the fact that the amount of edema is an index to the degree of toxemia. Rarely there are cases of severe preeclampsia with very little or no edema.

Rapid Gain of Weight: This may be due to lack of dietary control or accumulation of fluids in the tissues, or both. Most obstetricians lay great stress on the importance of scales, for the reason that finding a woman gaining too rapidly leads to the institution of treatment before any other signs or symptoms are noted. Thus, further toxemia may be prevented. An average of more than a pound per week in the last sixteen weeks should be considered as a beginning toxemia and appropriate measures taken.

Headache: Headache is usually noted after the blood pressure has become elevated and albuminuria is present. Frequently this symptom will bring the unattended patient to the clinic or doctor. It warrants investigation along the lines above mentioned.

Other important clinical, laboratory and retinal symptoms and signs are associated with preeclampsia, but the ones just enumerated are generally sufficient to enable one to proceed with the proper therapy. A pregnant woman should be seen at least once a month up to the seventh month and

every two weeks during the remainder of her pregnancy. The appearance of any of the signs or symptoms referred to is evidence of toxemia and an indication for more frequent observation. Often, severe toxemia can develop in just a few days.

TREATMENT

The attendant having diagnosed early toxemia will endeavor to institute proper treatment. The occasional case is amenable to medical treatment and the symptoms subside sufficiently to permit pregnancy to continue. Elimination, using saline cathartics to secure watery evacuations, and rest in bed are advocated. The patient should be put on a limited diet of fruit juices and milk. Some practice restricting fluids to reduce the edema, while others think it best to force liquids in order to dilute the toxins. To obtain rest, the patient should be kept quiet, using bromides or phenobarbital in suitable doses. If the patient does not improve under this therapy, and the great majority do not, a different type of treatment must be instituted.

When medical means are exhausted, then the question of the interruption of pregnancy arises. Sound judgment is required to say just the exact time for this. The signs and symptoms must be carefully weighed. Religion and the opinions of patients and relatives should be given minor consideration. Fortunately on our service, this phase of the question is easier handled than in dealing with the general run of patients. When we find a blood pressure distinctly elevated in a clinic patient that does not respond to the measures already gone into, she is admitted to the hospital for further observation. With the average private patient, this can be done satisfactorily at home. A rising blood pressure, with albuminuria, persistent edema and headache, indicates that the toxemia is getting more serious. A severe toxemia necessitates the termination of pregnancy. We should not procrastinate in starting labor, as the onset of convulsions always complicates matters. The maternal organism is carrying a heavy load which should be removed to prevent permanent injury that all too frequently shows up in future pregnancies and in the patient's well-being, because of damage by the toxemia to her vascular system, kidneys and other vital organs.

When convulsions have started, the treat-

ment should be directed toward protecting the mother from bodily injury. The convulsions must be controlled, and labor induced by mechanical means, if it has not already begun. Occasionally supportive treatment for the heart is necessary. Digitalis, in suitable hypodermic doses, may be indicated. Tension must be relieved. We believe that the lowering of tension in the patient lowers it in the doctor and the patient's family also and does more toward prevention of radical interference than anything else. From time immemorial morphine has been used for this. Many excellent men use this drug almost alone, depending on the respiration to indicate sufficient dosage. On our service we give $\frac{1}{4}$ to $\frac{1}{2}$ grain as the first step in treatment; then magnesium sulphate and intravenous dextrose solution, followed later by the induction of labor. Since I have been on the staff at Grady, no cesareans have been done for eclampsia or preeclampsia. Rarely forceps operations are done, but always for an obstetric indication rather than for the eclampsia. Again I quote the mortality of the State as a whole of 32.4 per cent as compared with our mortality of 6.7 per cent. If such conservatism is practiced in a well equipped hospital, it seems all the more argument for conservatism in districts not so well equipped.

The Technic of Morphine, Magnesium Sulphate and Dextrose Treatment: As soon as the eclamptic patient is seen, the pregnancy is disregarded. She is given morphine, $\frac{1}{4}$ to $\frac{1}{2}$ grains, immediately—the dosage being according to her size and the severity of the convulsions. Then we give 20 cc. of a 10 per cent solution of magnesium sulphate intravenously. This repeated every hour until the convulsions are controlled. Thereafter 20 cc. of the 10 per cent solution are given deep in the gluteal muscles every one or two hours. Rarely does a patient require the upper limit of six doses in 24 hours before the convulsions cease. We consider magnesium sulphate the "sheet anchor" in the treatment. It acts as a sedative to involuntary muscle fibers, by removing fluid from the edematous brain, relieving coma and in draining fluids from the tissues by the way of the kidneys. One great advantage is that it can be obtained in ampoules that do not deteriorate and can be kept in one's bag for emergency use in the home.

As soon as the convulsions are controlled, we start dextrose intravenously, giving 300 cc. of a 25 per cent solution every eight hours until the patient is definitely improved. It is available in ampoules ready for use. The dextrose acts as a diuretic and combats acidosis. It also reduces edema of the brain. Some consider the dextrose more the "sheet anchor" of treatment than magnesium sulphate. By the time these measures have been carried out, usually the patient is improved and we can proceed to the next step in the treatment. Effort must be made to keep the patient quiet and give nature a chance.

The method of induction used on our service is quite simple and can be done in the home. The patient is prepared by shaving and cleansing the vulva, remembering that toxemia makes the patient more susceptible to infection. The examining fingers of the gloved hand are inserted in the cervical canal and the membranes carefully stripped from the internal os. The presenting part is gently dislodged upward and with Allis forceps, bent safety pin, or a specially made instrument, a small rent is made in the membranes. The small tear is less likely to permit a prolapse of the cord that might occur with a sudden gush of the waters. It is well to retain the hand in the vagina until about 300 cc. or 400 cc. of fluid have escaped.

From this time on the case is treated as a case of normal labor. The magnesium sulphate is repeated only as indicated, while the dextrose is given every eight hours until the situation is well in hand. As a rule the woman goes into labor, after the rupture of the membranes, in 10 to 20 hours. No operative interference is attempted except for definite obstetric indications.

The advantage in this conservative method is that it can be used in the home as well as the hospital, and we feel that such conservatism will save maternal lives.

There is no question that this method of treatment causes more work for the doctor, and the family often will exert pressure on the physician to do something that will seem more active and heroic than just treating the woman conservatively, but any method that gives this low mortality is certainly worth while.

CHRONIC VASCULAR DISEASE AND NEPHRITIS

Eclampsia and preeclampsia are conditions that dramatize pregnancy in the last

trimester and usually in the last lunar month, whereas chronic nephritis and chronic vascular disease are more often seen from the beginning of pregnancy. Stander states that vascular disease and chronic nephritis comprise about 26.7 per cent of the toxemias of pregnancy. In our service, in 2,142 consecutive deliveries, we found an incidence of 28.5 per cent hypertensions. Of these 613 women, 164 were classified as having chronic nephritis and chronic vascular disease. These constitute a serious problem. There is no question that a large proportion of cases manifesting hypertension during pregnancy are actually on a preexisting chronic vascular basis. It seems clear, too, that a large number of apparently normal women who develop preeclampsia will be left with a generalized vascular involvement. Stander followed 800 cases and found that 35 per cent had chronic nephritis and that 40 per cent of these were dead in from five to seven years. Herrick and Tillman studied 594 cases, and 80 per cent of the determinable deaths were from causes in the cardiovascular-renal systems. Another interesting observation is that the course of a preexisting hypertensive vascular disease may be greatly accelerated by pregnancy and the patient left in a much more serious condition than before.

We feel that the term nephritis is used too loosely and that it should include only those cases with inflammatory processes in the kidney and their sequelae. We find nephritis concerned in but a small number of the toxemias; the larger number will be found to be used on cardiovascular disease with hypertension. Doubtless they are both of the same origin, but in nephritis the kidneys have taken the brunt of the injury.

The diagnosis of this nephritic group is made on the observation that they are seen early in pregnancy, before the last trimester as a rule, and that true toxemia of pregnancy rarely recurs and a repeat toxemia is generally on a nephritic basis. Clinically the feature of nephritis is prolonged, and there is marked albuminuria with a tendency to anemia, edema and uremia with or without hypertension (usually present). The dominating clinical feature of the larger vascular group is hypertension, with blood chemistry changes and uremia as the end result of renal arteriosclerosis. Albuminuria is often absent and the specific gravity of the urine

is generally low, but this may be variable. Concentration and dilution tests are run routinely and usually show a fixation in these cases, but we feel that this cannot be relied on altogether.

Last is the eye ground examination. Dr. Alton V. Hallum has made a five-year study of the eyegrounds of our cases of hypertension, reviewing 300 cases. There is no question that the use of the ophthalmoscope is of much help in the diagnosis and treatment of these cases. Dr. Hallum has shown in his study that the eyeground changes follow the other diagnostic aids. We always await his report before final classification. The eyegrounds may give the best differential diagnosis between chronic nephritis and chronic vascular disease.

In cases of chronic nephritis the pregnancy is terminated immediately, regardless of the stage. On the other hand, if the classification is that of hypertension with vascular disease, we tend to treat the patient or rather watch her for any change of a more serious nature. If no changes occur, we try, in the interest of the baby, to get the case nearer term.

With the type women we have, we often deliver them by hysterotomy and sterilization. Of course, early in pregnancy, the uterus can be emptied by curettment and contraceptive advice given, but with our patient it is only a matter of time before she is back again with all of the symptoms accentuated. If the case is too advanced for curettment, labor is often induced by the method given under treatment for eclampsia, that is, rupture of membranes and, in some cases, insertion of a large catheter or bag. Sterilization should be done before the patient leaves the hospital. A few of the more intelligent patients have been given contraceptive advice and it has been successful.

CONCLUSION

1. The conservative treatment of eclampsia is of paramount importance. It is a medical problem and should be treated as such except for obstetric indications.

2. In every case of hypertension, acute or chronic, the advantages of the termination of pregnancy must be kept in mind. This requires discriminative judgment. If chronic nephritis is present, termination must be

more seriously considered than if the hypertension is of vascular origin.

3. Sterilization has a definite place in the treatment of these women.

We feel these measures will save lives.

ANORECTAL PAIN

ITS CLINICAL SIGNIFICANCE

By

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The two symptoms that usually first induce the patient to consult his physician are pain and some noticeable departure from normal in his physiologic functions. Pain is generally the symptom that prompts this contact in the vast majority of cases, but apprehension and worry caused by any evident deviation from the normal is second only to physical suffering in causing an individual to seek medical care and advice.

Pain referred to or originating in the anorectal region usually influences the patient to seek relief promptly on its appearance. Since, in most cases, pain is aggravated by anorectal function and this performance cannot be suspended in the average case for a very long period of time, the patient who seeks immediate medical advice as a result of his disability should be the recipient of early and effective therapy.

Unfortunately, in many instances, a large group of persons will defer medical attention for the relief of symptoms referred to in this region, but instead indulge in self treatment as a result of the unwarranted claims made by advertisers of so-called cures and specifics for all sorts of anorectal diseases.

Because of the acute symptoms that are usually noted by the patient and that cause him to seek relief, the significance of acute anal pain will first be discussed. As the sensory nerve supply of the anal canal and anus is generous while that of the ampullar or rectal portion of the lower part of the bowels is the reverse, sudden or acute pain should immediately direct one's attention to the anus or anal canal.

The perianal skin undergoes a change at

the line where the wall of the anal canal first apposes. The glandular elements become sparse and disappear, and the skin itself thins out. The squamous epithelial cells gradually merge with and join the goblet cells of the mucous membrane. The area of muco-cutaneous coalescence is characterized by a transition from one type of epithelium to the other. Any lesion of the perianal skin, as well as the lining of the canal itself, is characterized by pain, the acuteness of which is increased or amplified by the amount of motion of the parts.

Pain characterized by sudden onset in this region points to trauma. Overstretching of the sphincter muscle as a result of the forcible expulsion of hard, impacted or scybalous stools is one of the most frequent causes of acute anal pain. Trauma is also caused by small swallowed foreign bodies being lodged in the anal crypts.

The two most common traumatic conditions encountered are anal fissures and acute hemorrhagic piles, or acute thrombotic hemorrhoids. Trauma caused by the faulty or careless insertion of rectal tubes and enema tips, as well as that caused by clumsy or careless instrumentation in the course of proctologic examination, is merely mentioned but will not be discussed inasmuch as the origin of the pain in these cases should certainly be self evident.

An individual who has become constipated or who has ingested certain indigestible or insoluble substances, such as phenylsalicylate, bismuth compounds, kaolin and barium sulphate, may suffer acute, even excruciating pain from the expulsion of stools containing these substances. Hard, scybalous or impacted stools that are not only larger in caliber than the stools normal to the individual but as a rule are blunt instead of tapered or rounded are apt to cause overstretching and occasionally laceration or tearing of sphincter fibers in their expulsion. The muscles may be simply over-stretched without there being any actual break in the lining of the anal canal, but the pain that this causes is accompanied by sphincter spasm which may last for several hours.

Anal fissure, which is also characterized by a sudden, sharp onset, presents sphincter spasm as its most frequent symptom. In this case the fissure, whether produced by trauma from large stools, masses or any-

*Read before a meeting of the Northwestern Division of the Association, Winfield, September 15, 1938.

thing else that overstretches the muscle or from the breaking down of the submucous sinus, produces pain out of all proportion to its size. The exposure of numerous sensory nerve endings produces spasmodic contraction of the sphincter and tonic spasm which resist the oncoming defecatory effort. Occasionally a fissure or splitting of the lining membrane of the anal canal will be caused by sudden and unexpected bodily exercise or labor.

If the patient has been suffering from an anal cryptitis or anal sinus, the thin covering of the crypt or sinus is also ruptured and a fissure may be produced by any of the causes mentioned.

The same causative factors may also produce a sudden rupture of some of the numerous small veins surrounding nerve endings, causing considerable pain and soreness following the acute pain accompanying its onset.

Ulceration of the anal canal as well as of the anal crypts frequently is superimposed on the wounds caused by trauma. The frequent and erratic fluid movements resulting from hypercatharsis so weaken the mucous membrane and transitional lining of the anal canal as to render them more liable to ulceration and fissure when put to any unusual strain.

After a swallowed foreign body, such as a bit of bone, bran or popcorn, bristle, shell, husk, core or sharp seed, becomes lodged in an anal crypt, it frequently lacerates the crypt and produces symptoms of sharp, often agonizing, pain, accompanied by sphincter spasm. The inflammatory condition usually extends to the surrounding anal papillae, which become swollen, edematous and inflamed and add to the patient's misery. These are traumatized by succeeding stools to such an extent that the patient is forced to seek relief without delay.

While in some instances the perianal hematomas will be absorbed, in most cases the blood clots act as an excellent nutrient culture material for infective organisms. Perianal abscess frequently follows if these clots are not evacuated.

Anorectal pain of more gradual onset, or occasionally supervening on sudden acute pain, may be caused by any congestion, inflammatory, ulcerative or infective condition.

Practically every patient who consults the

proctologist on account of pain of this character, or with any pain in the anorectal region, appears with the self-made diagnosis of hemorrhoids. When the pain is of an acute character, even though internal hemorrhoids may be present, they may be disregarded for the moment as the cause of the acute pain. Pain, however, of dull steady character, aggravated by the passage of stools and persisting after defecation, is often produced by the presence of internal hemorrhoids. This pain may not only be experienced in the hemorrhoidal region itself but be conducted along the sensory nerves to the sacral region and also reflexly into the groin down to the thighs.

If hemorrhoids are of the prolapsing type and become strangulated, pain becomes intense and unless relieved by the physician does not cease until the strangulation has produced a necrotic condition involving the nerve trunks themselves. Pain of this type should suggest internal hemorrhoids and its source even though the other principal symptoms of protrusion and bleeding may not be present at the time.

If the patient complains of pain that seems to increase in intensity and is accompanied by a pulsating or throbbing sensation with increasing difficulty in defecation, suppuration must always be borne in mind. Anorectal abscesses usually originate in infected crypts or from infected perianal hematomas. This type of persistent unrelenting, increasing pain should always suggest perianal infection and suppuration. If this pain is accompanied by an increasing rise of temperature, repeated examination of the parts should be made to detect an area of induration in the anus, rectum or surrounding tissue.

It must be borne in mind that anorectal pain may be indicative of pathologic changes in other organs contiguous to or impinging on the rectum or anal canal. In the male a posterior urethritis, prostatitis or seminal vesiculitis may be manifested by pain referred to the terminal end of the bowel. Prostatic abscess is frequently prone to make its presence known first during defecation.

Vesical calculi and various types of cystitis may also cause rectal pain, particularly on defecation, as well as pain radiating down the spermatic cord into the testicles. Injuries or disease of the coccyx or sacrum

also manifest themselves by pain in this region.

In the female, disease conditions of the fallopian tubes and ovaries will not infrequently give rise to rectal pain in addition to other symptoms, and an enlarged and adherent uterine fundus, by its interference with defecation, will give rise to pain during the passage of stools. Any pelvic or uterine inflammatory condition will give rise to these symptoms, and an hypertrophied cervix will frequently cause pain by pressing the rectum against the sacrum, causing definite obstruction to the fecal flow.

The pouching produced by rectocele is also productive of pain of a dull, sometime prolonged character, particularly during the efforts to expel dry or scybalous stools.

Pain of burning type, as well as pruritus, is frequently experienced in this region. A burning of the anus will usually follow frequent liquid defecations. These may be of the ordinary diarrheal type following intestinal upsets or acute intoxications or may be an accompaniment of more chronic types of colonic dysfunction.

Any condition characterized by frequent fluid stools, such as the various forms of dysentery or colitis, intestinal tuberculosis, or polyposis, causes maceration and denudation of the perianal integument and is productive of pain of a burning character.

Itching or pruritis ani may be produced by any of these causes and, in addition, may be produced by any local infection, irritation or traumatization of the perianal integument. It also may be produced by irritation from vaginal discharges or as a referred symptom from surrounding organs. A thorough search for parasitic infestation should not be neglected in the search for the cause of perianal itching. Itching of the perianal region is a subject about which volumes have been written but which must be dismissed with mere mention at this time.

The subject of anorectal pain and its clinical significance, paradoxical as it may seem, must include mention of the most important disease condition that affects this part of the body, even though pain is unfortunately not an early symptom.

Of course I refer to the presence of malignant disease. While statistics vary, according to the authorities quoted, it is generally agreed that fully one-half of all malignant

growths to be found in the body occur in the large intestine. The most frequent site for the location of a malignant growth in the large intestine is the rectal ampulla. As has already been mentioned the sensory nervous system of this part of the body is extremely meager. It is an unfortunate but nevertheless important fact that a malignant lesion may not only occur but may progress in many cases to an inoperable stage before the patient experiences noticeable pain.

Obstruction, bleeding, discharge and even loss of weight may be noted before appreciable pain is experienced when a malignant condition occurs in the rectal ampulla. In contrast to this, any lesion, whether benign or malignant, located in the anal canal makes its presence known soon after its onset by symptoms of a decidedly painful character. For this reason, any symptoms, as bleeding, dull aching sensation, or any change in bowel habits, that focus the patient's attention on the terminal end of the intestinal tract should be carefully investigated, particularly when no pain is noted.

One cannot discuss the subject of anorectal pain without saying a word about some of the agents that are used to relieve pain in this region. In the earlier days of medicine, before any of the real local anesthetic remedies were conceived and adopted, various preparations of opium were used for producing local amelioration of pain. Even today it is surprising to note the number of medical practitioners still prescribing and advising the use of the old "lead and opium wash" for external application, as well as the insertion of "opium and iodoform" suppositories for the relief of anorectal pain. The local anesthetic effect of opium is practically negligible, since more relief can be rendered the patient suffering from anorectal pain by the use of moist heat. Heat, either in the form of hot sitz baths or applied through the medium of hot compresses to the parts, is one of the best agents for the relief of pain.

The administration of enemas as hot as can be borne, but not under any circumstances containing soapsuds, affords great relief. The enema should be administered through a soft rubber catheter. Hard rubber, metal or glass enema tips are under no circumstances to be used.

Two of the best remedies to produce local anesthesia of inflamed or eroded surfaces are powdered chlorbutanol and nupercaine.

These remedies may also be administered in the form of suppositories for internal pain, but even in these instances their anesthetic properties will be greatly enhanced by the application of external heat.

For prolonged anesthesia for the relief of pain, particularly that produced by an anal fissure or ulcer of the anal canal, the subcutaneous injection of butecaine is helpful. It must be remembered that this injection should be subcutaneous and never intracutaneous. The anesthesia produced by this preparation lasts for two or three days or longer. The use of these agents for the temporary relief of pain is for the purpose of easing the patient's suffering while the measures for permanent relief are being planned.

Anorectal pain, by calling attention to the parts early, as it usually does, is a mandate to the physician to make a complete examination, not only of the anus and rectum but of all the surrounding contiguous organs, in order to discover the cause of the pain. The origin of the pain being discovered, it follows that the surgeon should carry out the indicated therapy for the relief of the condition that causes it.

In the specialty of proctology, as in the other important specialties of medicine and surgery, an early and correct interpretation of the symptoms presented is the first long and important step in the treatment of any disease and in the restoration of the patient's health.

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Gastric Ulcer—When a patient presents a history suggesting benign ulceration of the stomach or duodenum, it is of first importance that roentgenologic examination be made by a competent roentgenologist to determine the exact situation of the lesion. If the lesion can be proved by roentgenologic examination to be in the duodenum and if a medical regimen is chosen for treatment, the possibility of the duodenal lesion being or becoming malignant is practically nonexistent. A gastric ulcer, on the other hand, even if it gives rise to symptoms like those of ulceration of the duodenum, always should be regarded with the suspicion that it is an ulcerating carcinoma. This is particularly true of prepyloric lesions as well as of lesions on the greater curvature. At The Mayo Clinic, in dealing with gastric ulcers we proceed on the assumption that chronic ulcerating gastric lesions are malignant until they are proved to be benign.—Walters, *Texas State J. Med.*, December 1938.

EXPLORING THE POSSIBILITIES OF AFEBRILE BRUCELLOSIS

By
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In the May 1938 issue of this Journal, under the title of "The Undulant Fever Problem—A New and Promising Idea as to the Treatment of the Chronic Case," the writer made the following statement:

"In view of the accumulated knowledge of undulant fever, it may be concluded that the disease is not rare, but that it is really an endemic infection; and instead of an acute attack representing its entire symptomatology, such illness may be only an exacerbation. Usually the chronic case has a history of an acute attack in which it is assumed that the nervous system of a certain percentage of the patients becomes sensitized to the undulant toxin. Acute attacks are either intestinal or result in infection of the alimentary tract. This fact is often evidenced by enlargement of some of the abdominal lymphatic glands when the illness is prolonged. It is thought that after such attacks the undulant organism establishes itself in the intestines as a flora. Specific toxins are thereby engendered that give rise to waves of toxemia which, from time to time, striking already sensitized nervous structures have the effect of almost literally 'setting them on fire'—hence the neurasthenia of the disease. Besides the neurasthenic complex which is very common in chronic brucellosis, there are many expressions of perverted metabolism. Perhaps the most frequent of these is chronic acidosis.

"The condition of chronic undulant fever patients may be regarded as a special form of *Chronic Intestinal Auto-Intoxication* due to bacterial activity; i. e., to an intestinal brucellosis. To meet the immediate therapeutic indications it is proposed to undertake the control of the intestinal intoxication by resorting to the well-recognized procedure of changing the offending flora to a less harmful variety. By such means the character of the stools is changed and they become non-odorous; the patient experiences less discomfort from his intestines, and an increase in his energy. As the neurasthenia of these cases is due to a chain of factors, this control of the intestinal intoxication breaks a link in that chain and the vicious cycle may not be reestablished.

"Anyone familiar with chronic undulant fever knows that it ever tends to recur. Such recurrences the writer explains as due to migrations of the germs from the intestinal canal into the tissues and the organs of the body. It is probable that these excursions cause rises of temperature; whereas, waves of toxemia from the intestinal tract are likely to result in an *afebrile brucellosis* only. There is, however, an interrelationship between these different phases of the disease, and repeated invasions of the tissues of the body serve to maintain and to intensify the sensitivity of the nervous structures which is the fundamental vulnerability of the neurasthenic."

It should be noted that the foregoing statement is most conservative as to the benefits to be derived from the plan of treatment advocated. In the writer's practice the method has been of great usefulness in controlling the neurasthenia of these cases. However, there are some patients who manifest periodic exacerbations of fever or other evidences of activity of their infection while regularly taking kaolin—the single word which best expresses the writer's plan of treatment—as though such occurrences were definitely outside the range of the symptoms of intestinal intoxication. Hence, the practical limitations of the kaolin plan of treatment must be recognized in considering the problem of brucellosis as a whole. In view of this inadequacy of the writer's theory as published, he would present the following extension of this idea as to the potentialities of an undulant flora:

The enigma of the invasive phases of chronic undulant fever, which is, after all, the profession's greatest concern, far overshadows considerations of intestinal intoxication from an undulant intestinal flora. The importance of all of this is evidenced by the fact that acute undulant fever, which is relatively easily recognized, can account for only a fraction of the total number of cases of brucellosis. It is reliably estimated that one person in every ten in the United States is infected by the organism. Therefore it may be concluded that it is the mild case passing unrecognized that raises the morbidity rate of the infection. To give this theory general applicability in the larger premises there is predicated an invasion of the liver by brucella. Henceforth, this phase of undulant fever will be referred to by the phrase *hepatic factor*. Also, the terms *invasive* and *afebrile* will be used discriminately in describing certain phases of brucellosis. Both the phrase and the terms referred to will be fully explained.

AN HEPATIC FACTOR IN CHRONIC BRUCELLOSIS

Under the discussion of this factor belong: (a) considerations favoring invasion of the liver; and (b) changes in that organ the result of actual invasion.

A. The Pathology of Auto-Intoxication—Forchheimer¹ states:

1. Forchheimer, F.: *Prophylaxis and Treatment of Internal Diseases*, D. Appleton and Co., 1910, p. 213.

"The mechanism of intestinal auto-intoxication depends upon the consideration of the intestinal tract, the organs and tissues through which the digested food passes, and the eliminating agencies. During normal digestion in the intestines, toxic bodies are formed—albumoses and leucomains; if these are introduced into the circulation in sufficient quantity, intoxication occurs—acute intestinal auto-intoxication. This may be caused by the presence of too large quantities of improper food or by certain intestinal conditions, usually followed by disturbance in the function of motion. But it can be prevented, partially or completely, by certain protective functions within the body: the so-called filtering function of the liver, certain changes in the lymphatic tissue as yet not precisely defined, and alterations that take place in the blood. In addition, we have the counterbalancing effect of elimination which goes on wherever there is a mucous membrane, in the whole respiratory and digestive tract, but also notably in the kidneys and the skin. When the various organs and apparatus are insufficient because of absolute or relative functional inactivity, relatively small quantities of intestinal toxins may produce symptoms. When they are permanently insufficient, chronic intestinal auto-intoxication is produced, provided the food which has been introduced into the intestines is the proper kind to give rise during digestive changes to a sufficient quantity of toxic bodies. But in addition to this, which may be called the physiology of intestinal auto-intoxication, there is the pathology. The toxic bodies circulate in the blood; we therefore find functional disturbances in tissues remote from the intestinal tract, in the nervous system, and in all the eliminating tissues and organs. The change in their nutrition may, as it frequently does, lead to infection. But, in addition, the chronic existence of toxins in the blood leads to organic changes in the liver, the blood vessels, the composition of the blood, the respiratory tract, mucous membranes, the kidneys, the skin, and probably the nervous system; moreover, the toxins predispose to infection. The chemistry of the condition is not thoroughly understood, but it is likely, on clinical evidence, that certain resultant bodies like uric acid and urates, ultimate derivatives of chronic intestinal auto-intoxication, also produce pathological changes. At present we must look to intestinal auto-intoxication as one of the causes of acidosis."

Forchheimer continues as to the acute form of auto-intoxication:

"This may be found in healthy people, but in the majority of cases it occurs in those suffering from the chronic form, where it takes upon itself the character of the so-called *bilious attack*, or in especially predisposed individuals it may be an attack of migraine. It may occur in those who have any condition leading to obstruction of the

bowels. Prolonged constipation, complete or partial, leads up to it."*

From the foregoing account of perverted digestive and absorptive processes it can be seen how a definite factor making for disease may center in the detoxifying or "filtering function" of the liver. Therefore, toxins from an undulant flora—a condition, in itself, not necessarily of grave moment—may perpetuate a cycle of toxin leading to infection, infection in turn causing further functional insufficiency of the liver, and so on. Forchheimer's reference to the "filtering function" of the liver is somewhat figurative as undoubtedly he refers to the detoxifying powers of the organ; the writer's reference to the same function of the liver is literal as he further ascribes to it the power of actually arresting undulant germs.

The second element comprised in the *Hepatic Factor* follows naturally upon insufficiency of function, to-wit:

B. The Invasion of the Liver by Brucella—A congestive condition of the liver results from the continuous overtaxing of its detoxifying capacity with the poisons elaborated by the undulant flora. The sequence of pathologic changes is, likely, first a hyperemia of the organ; this being followed by some degree of cloudy swelling or parenchymatous degeneration of the cells of the liver lobules as a severer effect of overactivity; and lastly enlargement of the organ because of inflammation of its parenchyma. Inevitably swelling of the liver compromises its function, and results in portal congestion.

While the liver is thus affected by functional insufficiency and even structural alterations, there are ever present within the intestines viable undulant organisms ready to begin an ascending invasion of the biliary passages; also, it is assumed, these germs are from time to time absorbed and carried by the portal vein to the hepatic lobules. It is probable that the secretion of a healthy liver inhibits such invasion or implantation, but not so the bile from a diseased organ. It may be observed that brucella is a very tiny non-flagellated germ which lends itself readily to hemic transportation and implantation; it is as frequent an invader of the human blood stream as any other organism.

Undoubtedly a swollen, congested liver, because of its structural alterations, offers many opportunities for the lodgment of bacteria which is the first step in invasion. To appreciate this, one may imagine that under such conditions the liver is affected by poor drainage just as a terrain flooded by backwater is—over such an area innumerable pools remain, that do not drain, after its undulating stream has returned to its banks.

Of the two routes of involvement of the liver, probably direct approach along the bile passages is more common, but ordinarily the organisms are turned back by the antiseptic action of the biliary secretion. Entrance of the germs to the liver through the portal vein is potentially a more serious occurrence. This, no doubt, also takes place more frequently than is appreciated, but again the healthy liver is usually enabled by natural means to care for such influxes. The danger of actual implantation is in proportion to the degree of hepatic insufficiency that exists. Thus an influx of germs may cause only a few days of biliousness, or it may result in prolonged indeterminate illness. Of course direct infection of the liver results in inflammatory changes in the organ which may eventuate in hepatitis, fibrosis, or even focal necrosis.

STUDIES IN BACTERIOLOGY AND ANIMAL EXPERIMENTATION ARE SUGGESTIVE

It is known that many varieties of bacteria can pass through (or be carried by wandering white corpuscles) the intestinal mucosa and enter the blood stream by way of the portal vein. Whether they are able then to set up a process of disease depends upon several circumstances. First, the outcome is largely conditioned on the number and virulence of the germs so metastasized; secondly, the issue may rest upon a healthy defense mechanism of the body, particularly the resistance of the part in which the bacteria finally lodge. Adami² asserts that when micro-organisms are injected into the general circulation, even in fairly large quantities, within a few hours they are destroyed and eliminated chiefly by the kidneys and the liver. As it is known that undulant organisms are frequently found under natural conditions in the bile passages, presumably in a process of elimination, one

*Substantially this same account appears in "Treatment In General Practice," (W. B. Saunders Company), 2nd edition, 1934, by Beckman, under the heading, Nervous Indigestion.

2. Adami, J. G.: Principles of Pathology, Lea and Febiger, 1908, Vol. 1 (General Pathology—Bacteria as a Cause of Disease), pp. 284-301.

is justified in assuming that these germs reached the liver through the portal vein. For certainly when the liver is viewed as an organ of elimination, it is more concerned with portal than with systemic blood—this because every drop of the former must pass through it.

Perhaps most authorities on undulant fever would hold that there are more or less permanent foci of infection (in many organs, most of the fixed lymphatic structures, and the muscles) from which come the characteristic exacerbations of the disease. Some cases of undulant fever have semi-purulent lesions as orchites or tubal masses that persist for long periods. The reader should not, however, confuse these as the source of the typical recrudescences of the disease for the majority of patients have no such lesions. This explanation is, therefore, for some, difficult to comprehend, and the writer favors an explication of clinical recurrences of undulant fever on a basis of repeated metastases of germs through the general blood stream to parts that are susceptible to their invasion. It is a well known fact that certain circumstances, e. g., the traumatizing of any part, may make it a point of lowered resistance. Adami writes of this, and perhaps all physicians remember Nicholas Senn's pet phrase, *Locus Minoris Resistentiae*.³ Probably such parts are increasingly vulnerable to infection because of an allergic susceptibility that they develop.

Postmortem studies on laboratory animals seemingly indicate that it is the liver, of all the organs, that suffers most. However, one should be cautious in drawing conclusions, and should carefully distinguish between conditions that obtain in the disease as produced in experimental animals and those occurring in humans. In the former the infection occurs through the systemic circulation; in the latter, either through the lymphatic system in acute cases; or by way of the portal vein in chronic cases. Huddleson⁴ states, as to the experimentally produced disease: "The liver lesions are most characteristic of those described." The obvious conclusion is that the liver suffers be-

cause as a filter it arrests viable germs. In acting in this capacity toward the systemic circulation, it receives the blood to be filtered through the hepatic arteries whose ultimate distribution is to the peripheral zone of the liver lobule. It will be seen that the liver in this circumstance has the same relationship as the kidneys to blood stream infection. When the liver is considered as a filter for the portal stream, as the volume of blood received is greater and likely more heavily laden with germs, the chance of arresting infection is greater. Therefore, it may further be concluded, that, under natural circumstances, the chance of invasion of the liver is particularly great. The ultimate distribution of the portal vein in the liver is the same as that of the hepatic artery.

From autopsy reports on humans⁵ one gathers that the liver undergoes definite pathologic changes as follows: gross, marked enlargement and nutmeg changes; histopathologic, dilated capillaries within the central areas of the lobule. These capillaries are filled with laked blood cells and extend outward between columns of liver cells that are well preserved though the cells are somewhat compressed and may be vacuolated by the formation of fat globules. In the outlying zone of the liver lobule the cells may be markedly degenerated and there may be definite inflammatory lymphoid infiltration. In the more chronic cases there may be beginning fibroid proliferation. "The *Micrococcus melitensis* is frequently found in the hepatic parenchyma"—Bancilhon. Such observations upon the lesions of fatal cases in man hardly concern the practicing physician as death is rare in chronic undulant fever. These changes affecting the liver are here inserted to support the writer's idea that the liver is particularly vulnerable in this disease.

CLINICAL EVIDENCE OF LIVER INVOLVEMENT IN CHRONIC UNDULANT FEVER

At this juncture those symptoms met with in chronic undulant patients that do suggest hepatic involvement should be set forth: The patient is eternally attributing his ill feelings to biliousness. Briefly stated,

3. Senn, N.: Principles of Surgery, F. A. Davis Company, 1901, p. 173.

4. Huddleson, I. Forest: Brucella Infections in Animals and Man, The Commonwealth Fund, 1934.

5. Bancilhon, Jules: Malta or Mediterranean Fever, J. B. Lippincott Company, International Clinics, Twenty-Seventh Series, Vol. 2; and Hardy, A. V.: Fatal Cases, National Institute of Health, Bulletin 158, p. 77.

he experiences languor, depression of spirits and constipation. He acts on his belief and resorts to purgatives which help him temporarily, though his biliousness ever recurs. There may be tenderness over the liver or even spontaneous pain. The clinical course of chronic undulant fever continuously changes as though it were determined by functional perversions rather than by an unvarying process or by organic changes. Cases tend to relapse in the warm season. Apparently febrile manifestations are worse in persons living under the torrid zone—a circumstance favoring torpidity of the liver. In drinkers—a class prone to have bad livers—chronic undulant fever runs a particularly stormy course. There is usually marked secondary anemia. Moodiness and gloomy foreboding are characteristic of these patients—though an individual case may not be so affected—and suggest a cholic involvement. Spontaneous hemorrhages from the gastro-intestinal canal are fairly common occurrences. Minor derangements of gastric digestion and gaseous distention of the intestines indicate that an abnormal biliary secretion is disturbing associated functions as well as failing to perform its proper duties. Besides the fact that the majority of these patients have a peculiar sallow, greenish complexion, occasionally a case will manifest jaundice or other disturbance that can definitely be allocated to the liver. Jaundice—though rare—may occur as a terminal symptom of the very unusual instances of fatality met with in this chronic disease. In a disease with as low mortality as chronic undulant fever one would ordinarily err in judging its nature by manifestations occurring just before death. Under such circumstances, however, symptoms may spell themselves out more definitely, making terminal occurrences very significant; e. g., enlargement of the liver, gastro-intestinal hemorrhages, and evidences of a biliary cirrhosis—though hepatic involvement may have passed unsuspected during a prolonged semi-invalidism. The writer has seen two fatal cases of biliary cirrhosis, one a *proven undulant*, the other probably of the same nature judging from the clinical history and symptoms which included recurrent fever.

Hemorrhoids Are a Frequent Trouble—Perhaps the most definite evidence of liver involvement in chronic undulant fever patients is the frequency of hemorrhoids

among them. The writer conservatively estimates that twenty per cent of all cases suffer in that respect, and, furthermore, it should be observed that even after operation the condition often recurs. As hemorrhoids are more definite than mere subjective symptoms they afford more dependable evidence from which to draw conclusions as to the underlying pathology in these patients. While there are other causes of hemorrhoids, portal congestion is universally regarded as perhaps the commonest. The reason for this is that the superior hemorrhoidal vein is a tributary of the portal vein; neither vessel has valves, and any distention of the portal is reflected in distention of this hemorrhoidal vein. It should be noted that while one speaks of the portal system of veins, these vessels occupy, in a sense, a position intermediate between arteries and veins proper. For the blood in them still moves from the left side of the heart toward a part in which it is to be distributed through a second, terminal set of capillaries. This column of blood in passing through the primary set of capillaries in the intestines really loses its *vis a tergo*.

Of course distention of the superior hemorrhoidal vein might be occasioned by the pressure upon the portal vein of an enlarged lymph gland in the hilus of the liver, but such a gland should press equally upon other structure; for instance, the bile ducts, though, as a matter of fact, jaundice is rare in chronic undulant fever. For this reason it is thought that the element of hilus blocking by enlarged lymph glands is of little moment. Then again, even if hemorrhoids do indicate a diseased liver, that condition of itself would not prove this thesis as to undulant fever. While the same condition of the liver may at times be due to unrelated causes, nevertheless, the line of reasoning in this discourse does lead to the conclusion that when a certain flora prevails a torpid liver is the cause of the events described.

AFEBRILE BRUCELLOSIS

This appellation that appears to have been given definite recognition by Alice Evans⁶ well expresses the apyrexial intervals occurring in the course of chronic undulant fever that are so difficult to understand. She used the term to designate periods as long as

6. Evans, Alice C.: Chronic Brucellosis, J. A. M. A. September 1, 1934.

several months occurring in the disease without any substantial rises of temperature, but which in all other respects present the dreary malady. Evidently at these times the infection smoulders along without causing fever. The writer's conception of the toxemia due to an undulant flora is in line with the expression as used by Evans, but by careful observation he has satisfied himself that an undulant flora is usually a passive condition occasioning nothing more than a neurasthenia; whereas, on the other hand, without causing any rise of the temperature, the disease may manifest considerable activity, to-wit: a definite line of infection symptoms that can progressively reduce the patient to a state of great debility. It is at once apparent that from the public health viewpoint the greatest importance attaches to this active form of *afebrile brucellosis*.

Perhaps the projection of the categories *Hepatic (or Active) Afebrile Brucellosis* and *Intestinal (or Passive) Afebrile Brucellosis* will serve to eliminate the existing confusion. The objection to the use of the unqualified phrase *Afebrile Brucellosis* is that, to some, it implies a state of complete latency; to others, while implying some degree of activity, it is too vague. The introduction of the *hepatic factor* into the *modus operandi* of chronic brucellosis provides a connecting link between the complete passivity of an undulant flora and the activity of a definitely invasive brucellosis. While the writer has resorted to the term *invasive*, perhaps the whole matter can be simplified by merely using the word *infectious*, applying to that term the force of scientific usage. Adami makes this distinction:⁷

"It is by their products of growth that bacteria ordinarily cause disease, the difference between a bacterial intoxication pure and simple and an infection being that in the former case the products alone are absorbed; in the latter, the bacteria themselves gain entry and grow."

Ordinarily metastasis of germs with consequent implantation within the tissues of the body is attended with fever. Invasions of the biliary tract and liver—the writer's *hepatic factor*—while constituting an expression of infectiousness of chronic brucellosis, may cause no fever worthy of note, a circumstance which can possibly be attributed to the fact that the parts affected may be

considered, in a sense, mucous or open surfaces with drainage. A happy outcome of hepatic involvement, as the writer postulates it, would be the destruction of the undulant organisms within the liver with their elimination and the complete restitution of the organ. An unfavorable eventuality would be the propagation of these microbes within the liver and their further metastasis to the body generally, with implantation in some susceptible part, as the kidneys, resulting in perhaps a *polycyclic* form of undulant fever—possibly the most formidable variety of the infection.

While the general characteristic of a relapsing, subacute, or chronic undulant fever is its tendency to assume a course of succeeding waves of fever, each lasting about twenty-three days, the writer's observation has been that many of the more chronic cases follow no rule whatever. The broken febrile course of such cases is explained as follows: In chronic brucellosis of the intestinal kind, metastasis occurs, first, by transportation of the germs to the liver; and secondly, by the passage of the organisms from that overtaxed organ to the general blood stream and thence to various parts of the body—points that perhaps prove unfavorable to the development of the infection. The fever of these cases comes not from the liver, but from the secondary implantations.

Symptoms of Late Infectious Brucellosis—As the greatest importance attaches to the prompt, energetic treatment of the first indication of any active form of brucellosis, the following symptoms should not be mistaken for those manifestations that proceed from a purely passive condition of an undulant flora; profuse, sticky sweats which often have a peculiarly sweetish, offensive odor; one or two nervous rigors, occurring particularly toward night; aching feet; a bitter, disagreeable taste in the mouth; digestive disturbances; manifestations of migraine; somnolence; neuritic pains; muscular stiffness and soreness; transitory weakness and shortness of breath, even suggesting myocardial trouble; arterial hypertension; polyuria; noises in the ears; and nervous spacity, including starting at sudden noises—all perhaps without noticeable fever. The relevancy of the foregoing symptoms to an *Invasive Afebrile Brucellosis* will be indicated in the section of this paper on *Treatment*, under *Vaccines*.

7. Adami: Ibid. p. 286, paragraph 2.

Quite paradoxically, a patient with the foregoing symptom-complex may show a euphoria and be energetic, possibly because of heightened blood pressure. It is the opinion of the writer that this tendency is the cause more than any other for the profession's failure to recognize the nature of these attacks. Naturally the feeling of enhanced strength misleads the sufferer himself; the physician really is not apprised of the fact that the patient is definitely worse at such times. Contrary to the general opinion, the immediate effect of an undulant toxemia is not especially depressing. Dalrymple-Champney⁸ called attention to the conspicuous disproportion between the degree of prostration and the height of the fever suffered by undulant fever patients. Frequently a patient, he states, "will remain at work with a temperature of 103 degrees F." Probably it is because of sensitization of the nervous structures that the chronic case may show so much neurasthenic weakness.

The writer's efforts to draw attention to the *hepatic factor* may have given relatively too much emphasis to intestinal brucellosis, and may have caused other forms of the infection, as the respiratory, to be lost sight of, though they are, in their chronic expressions, practically afebrile many times. Several years ago he called attention to the frequency and the peculiarities of brucellosis of the lungs.⁹ Obviously, the scope of this article admits of setting forth, in detail, but one explanation of prolonged, subtle infectiousness in undulant fever; namely, the *hepatic factor* which does explain how, without being noticeably febrile, the disease may be very much "on the march."

ADDENDUM ON TREATMENT

The treatment of undulant fever is so generally unsatisfactory that there is little incentive to attempt to present that subject systematically. The writer would prefer simply to set forth some principles that occur to him and to relate a few observations that he has made on the use of vaccines and serum. It is hoped that these principles will help to attain the goal that is sought in treatment; a statement of these principles will also serve to emphasize the underlying

thought expressed in the body of this paper.

From the ideas that the writer has presented there would seem two cardinal principles in the treatment of the infection that should be stated: (a) There are phases of brucellosis that are distinctly infectious and others that are clearly toxemic. While these different phases are interrelated to a considerable degree one must be prepared to differentiate them in the treatment of undulant fever; (b) So profound are the alterations of the chemical processes in the bodies of chronic undulant fever patients that one cannot expect to correct them in a day. Heretofore, treatment has been carried out on the idea that there is some fundamental difference between the acute and chronic cases. There probably is no such difference as the history of many so-called acute cases indicate that they are but exacerbations. Certainly the distinction between acute and chronic cases has not promoted effective treatment of the disease.

The recognition of *infectious* and *toxemic* brucellosis does establish a definite and useful basis from which to direct therapeutic endeavor. The diagnosis of an infectious brucellosis always demands active measures, such as the use of the vaccines to stimulate natural resistance. In cases that do not respond to vaccines, non-specific therapy offers some hope. In this category should be placed the use of dilute solutions of hydrochloric acid intravenously. On theoretical grounds this method of treatment for infectious processes has been condemned, but there have appeared in current medical literature numerous reports of its successful use in undulant fever. While the writer has not personally used this method of treatment, he considers, in view of the acid-base disturbance in many chronic undulant patients, particularly those who have migraine, that it may have a legitimate field in the treatment of brucellosis. It stimulates the defense mechanism of the body to destroy infections.

But probably the future of the treatment of undulant fever depends upon the discovery of a chemical *sterilizans magna* having direct effect upon germs within the tissues. Whether the profession already has this in sulfanilamide has as yet not been determined. There have been very encouraging reports of its use in acute undulant fever. The writer has tried it in two cases, both in-

8. Dalrymple-Champney: Lancet 2: 1449, 1935.

9. Thames, Eugene: Chronic Undulant Fever, a Pathologic Debility Often Resulting in Severe Nervous Disorders, Medical World 53, Feb.-June 1935.

stances of chronic brucellosis. The results were identical in both cases. These patients experienced immediate relief but soon relapsed. Incidentally, a high percentage of relapses is a discouraging outcome of all methods of treatment of the disease. Probably the failure of sulfanilamide in the writer's cases was due to his inability to determine the proper dosage, and also to the difficulty of combating a bacterial disease present in both the intestines and the tissues. This leads to the next consideration.

THE IMPORTANCE OF THE ELEMENT OF CONTROL IN INTESTINAL BRUCELLOSIS

If the reader will visualize an undulant flora continually reinfecting the body, he will be able to appreciate the difficulty of curing an undulant patient. The writer proposes the phrase, *Element of Control*, to imply that the case of undulant fever is receiving effective treatment toward changing the intestinal flora and combating the effects of toxic absorption on the liver. This idea includes consistent hepatic hygiene. Obviously, every precaution is to be taken against the ingestion of more undulant organisms into the intestinal tract by drinking infected milk. It is known that sulfanilamide acts best *in vivo*, i. e., within the tissues; therefore it may not, in any ordinary dose, be effective against an undulant flora. Its sterilizing power may not reach to the intestines; hence the desirability of keeping the intestinal brucellosis as much as possible within bounds by persistent effort.

To meet the therapeutic indications arising from the passive toxemic condition that comes from an undulant brucellosis, the intestinal flora must be changed. Usually this can be accomplished without great difficulty. It can be done by several means; the use of kaolin is the simplest method. By this procedure the neurasthenia of the patient is materially improved. This is explained as follows: These neurasthenias, as has been stated, are thought to be allergic in character and due to a definite sensitization of the nervous structures by previous invasions of the tissue by brucella. On the basis of such sensitization, waves of toxemia from the intestinal flora have a very devastating effect upon the patients. Kaolin is also regarded as the most effective general means of promoting hepatic hygiene.

While for any invasive form of brucellosis the writer advocates a more active thera-

peutic effort than the mere use of kaolin, it is possible that prolonged control of the undulant flora may, particularly in milder cases, eventuate in a cure of the disease. The flora is regarded as the ultimate source of the infection in the average chronic case.

Choice of Method of Immunization—In undulant serum the physician is enabled to administer a large amount of brucella antitoxin and antibacterin. In using it, one resorts to the principle of passive immunization just as in using diphtheria antitoxin. The serum is ideally suited to reduce the sensitivity of the nervous system in the neurasthenic case. The writer also avails himself of the serum in treating any severe, or so-called acute case of undulant fever in the belief that such patients are overwhelmed by the infection and need the quick relief that can be found only in passive immunization. Seemingly the serum is rarely contraindicated, though it must always be administered with care. Its use in a case with high temperature calls for the exercise of additional precautions against the possible development of hyperpyrexia.

While theoretically the vaccine is to be used in infectious manifestations of brucellosis, and the serum when the patient's nervous system has become sensitized, matters are not always so simple. In fact, both agents are often beneficial in the same case, and a supposedly indicated one may have no effect or be actually harmful in a given case. Here the writer would offer what may seem a homely illustration of this point. In the treatment of cystitis one may often use either of two lines of therapy; he may resort to bladder sedatives and diuresis, or he may depend upon some one of the many urinary antiseptics; that is, he may attack the underlying infection or he may simply allay irritation, trusting nature to stay the germ invasion. However, the element of infection may be so great in a given case that no amount of sedative treatment is of avail; again, the element of irritation may be such that the immediate need for sedation overshadows all other indications. Similarly in the treatment of undulant fever one of the agents under discussion may be actually inapplicable though theoretically indicated. For instance, in some cases where the writer had administered the serum, but wanted to supplement his treatment with vaccines, he has found that even as little as 0.10 cc. of the

vaccine caused so severe a reaction that its administration had to be discontinued—presumably because either it caused further sensitization of the nervous structures or acted as an excitant.

Observations on the Use of Undulant Serum—Serum almost always effects a noticeable betterment of the cases; ultimately the same patients relapse if not given other treatment also. A treatment of serum checks the heavy sweating of a patient for about one week, but this symptom returns. The general improvement from the use of serum continues for at least two months. This is because the serum is bactericidal as well as antitoxic. The patient may seem to make little progress after his initial improvement, but it is noticed that, whereas previously he seemed to go backward with each succeeding undulant wave, after serum treatment he has no periods of regression and really gains steadily though his progress may not be striking. It is to be remembered that undulant fever is abortion fever. In the face of a threatened miscarriage the serum may be used with impunity and will check most abortions occurring in undulant fever; the vaccines will aggravate the tendency. The serum treatment may be repeated in cases of undulant fever every six months, but the writer has learned that when a patient has taken it several times he becomes intolerant to it.

Observations on the Use of Vaccines—While allergies are common in chronic undulant fever patients and there is every indication that these patients, as a class, are highly sensitive, the professional allergist who expects to cure such patients by desensitizing them will be disappointed. The vaccines, however, if their use is persisted in, do have a beneficial effect. The plan the writer follows is to use them in relatively small doses (from 0.2 to 0.8 cc.) over an almost indefinite period. The vaccines seem especially efficacious in children and young people. In small doses, guardedly, even invalids affected with other conditions can stand the administration of vaccines without untoward results excepting in instances where the nervous system is highly sensitized. For example, a child with congenital heart trouble and brucellosis can most safely be treated with the vaccine. To run the risk of massive doses of serum in such a case would be unwise. Therapeutically there is

no difference between the effect of the different strains of vaccine, unless it is that the abortus is more active. There are individuals so sensitive that they cannot take the vaccines because of the intense local reaction to the injections. Vaccines are usually potent to immediately check the symptoms of a beginning invasive brucellosis in a chronic case. This fact of itself indicates clearly that these symptoms are due directly to the infection.

Hysteria—The treatment of the hysterical condition presents many difficulties, not the least of which is to explain the situation to excited and apprehensive relatives. Parents with an apparently unconscious daughter or son, or a young husband whose wife has a paralyzed limb is not easy to placate. Too much detail is an error, even though the underlying picture is very clear, and unless the circumstances are very unusual it is best to fall back on the old lay diagnosis of nervous upset or breakdown. An advantage in the approach to the therapy of these cases also is the fact that the depth of the emotional disorder varies directly with the patient's mental capacity. The more superficial and bizarre hysterical episodes are seen in those of a low mental capacity. The etiological factor is as a rule more trivial and the response to suggestion much more favorable and rapid. In those of a higher intellectual level, however, suggestion is not so favorably received and at times a frank discussion of the symptoms and their cause is the better course. The emotional conflict producing the functional symptoms should be outlined and explained, and the psychotherapeutic course outlined be rationalized to the patient.

The hysterical patient should not be told that there is nothing the matter with him. This is neither convincing to the patient nor true. A person who has an emotional conflict sufficient to disable or even at times invalid him for weeks or months certainly cannot be called in good health, and however ludicrous the symptoms may be to the doctor or his family, they are very real to the patient. Hysterical paralysis is just as disabling to the individual as organic or structural disease to the extremity involved, and at times more difficult to successfully treat.—Spessard, Virginia M. *Monthly, December 1938.*

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AGRANULOCYTOSIS

"In 1931 the first evidence was presented that the disease agranulocytosis was caused by the administration of certain drugs. Since that time there have accumulated a large amount of confirmatory data and reports of experiments from over the world that this concept is correct. The purpose of this paper is to summarize this evidence and to make further suggestions concerning the use of some of these drugs, particularly since new preparations are being introduced constantly and at least one of them (sulfanilamide) can be definitely added to the list."

The above is the opening paragraph of Kracke's¹ excellent chairman's address before the section on pathology and physiology at the San Francisco session of the American Medical Association. The author reminds us that dinitrophenol, arsphenamine, novaldin, antipyrine, sulfanilamide and sedormid may depress the leukocytes and he briefly considers the possible dangers attendant upon the use of each. But aminopyrine he considers at length and lists forty-seven preparations containing it and warns us that the list is incomplete. Of this drug we are told that "the incrimination of aminopyrine in the produc-

tion of neutropenic diseases is based, first, on geographic studies which show that the incidence of the disease closely parallels the use of the drug; second, on the fact that the incidence is higher for the groups of the population that are the most habitual users of the drug; third, on the collection of records showing that in a large majority of patients with agranulocytosis the disease has followed the administration of the drug; and, fourth, on the administration of aminopyrine to an occasional patient who has recovered, with consequent reproduction of the disease. The fourth type of evidence adds conclusive proof that this drug is capable of producing agranulocytosis in an occasional person." And the author further asserts that "there is now general agreement that aminopyrine is dangerous and that its use should be drastically restricted."

Kracke says that during the years 1931-1936, inclusive, the deaths from agranulocytosis in the United States ranged from a low of 380 in 1935 to a high of 503 in 1934. And he believes that "the physician should take an active part in the program of public instruction relative to the dangers of these preparations, for only if he does so can the public become informed as to these dangers. Certainly it will not get this information from drug stores and pharmaceutical manufacturers." And "no doubt agranulocytosis will continue to follow the administration of aminopyrine from three sources: first, from the occasional physician who prescribes it; second, from the physicians who unknowingly use it when it is incorporated with other pharmaceutic agents, and, third, from the purchase of proprietary and patented remedies from drug stores by the patients themselves."

The last word has not been said in regard to agranulocytosis and our knowledge of it is steadily widening. There are those who are not in agreement with Kracke as to its etiology, but it is not easy to disprove his well-thought-out presentation of his case. And, for the present at least, practitioners will do well to bear in mind the author's conclusions, which are:

1. The cause of most agranulocytosis is now definitely established.
2. The disease has practically disappeared from Denmark because aminopyrine is no longer used in that country.

1. Kracke, Roy R.: Relation of Drug Therapy to Neutropenic States, J. A. M. A. 111: 1255 (Oct 1) 1938.

3. Approximately 80 per cent of drug-produced agranulocytosis is caused by the administration of aminopyrine or one of its compounds, with a lesser percentage being caused by the administration of dinitrophenol, arsphenamine, sulfanilamide and novaldin.

4. The disease is decreasing in incidence in the United States, probably because of the more cautious use of aminopyrine by the medical profession.

5. The number of cases of agranulocytosis from the use of sulfanilamide will probably increase in the future, particularly if this drug is incorporated in patented remedies and indiscriminately sold to the public under noninforming names.

6. Physicians should attempt to prevent this disease by caution in the use of these drugs, by instruction of patients concerning their purchase in drug stores and by programs of public instruction.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE HEALTH OF THE ALABAMA NEGRO

By

J. N. BAKER, M. D.

State Health Officer

Dr. Roscoe C. Brown, Negro Health Education Specialist of the United States Public Health Service, has advised the State Health Officer that the 1939 observance of National Negro Health Week will mark the twenty-fifth anniversary of this nation-wide effort to increase public knowledge regarding the problem of Negro health. Appropriately enough, the Silver Anniversary observance will be centered largely upon the achievements in Negro health-building since 1913, when the Negro Organization Society of Virginia launched the National Negro Health Week Movement by beginning a series of campaigns devoted to the general cleaning up of homes, lots, fields and the community as a whole in all parts of the state.

National Negro Health Week, which is observed during the Sunday-through-Sunday period which includes April 5, Booker T. Washington's birthday, should enlist the particular interest of the medical profession and the general public of Alabama because of the part played by this colored Alabama educator, who, in 1915, was so impressed by the success of the above-mentioned two-year Negro health campaign in Virginia that he issued a proclamation calling for the observance of what was then known as National Health Improvement Week. This name was later changed to the one now used.

Although health conditions among the colored people, fortunately, have improved greatly during the past few decades, illness is still a much more serious matter to them than to the white people. This is impressively shown by the records of the Bureau of Vital Statistics of the State Department of Health. The picture these records paint is of course that of health conditions in Alabama, but the health picture of the United States as a whole, insofar as Negro health is concerned, is essentially the same.

These records tell us, for instance, that the Negro death rate for 1936, the latest year for which complete reports are available, was 14.2 per 1,000 population. This was approximately 54 per cent higher than the rate of 9.2 per 1,000 population for white people. These records show that in 1936 the Negro death rates for 24 diseases and disease-groups were higher than were those for white people, while the white rates were higher in the case of only seven. They show that, notwithstanding the fact that there are nearly twice as many white people as Negroes in this State at the present time, more Negro babies than white babies died during the month of January before reaching their first birthday. They show also that, on the basis of the latest available reports, the Alabama maternal mortality rate is more than 40 per cent higher among Negroes than among white people.

The colored death rate for influenza is 62 per 100,000 population, as compared with only 47.9 per 100,000 for white people. The

average Alabama Negro is nearly three times as likely to die of tuberculosis during a given period as is the average white person. As a direct cause of death, syphilis claimed the lives of nearly five times as many Negroes as white persons in 1936, in spite of the aforementioned fact that white people outnumber colored by almost two to one. And so it goes.

Ignorance, poverty, and illness are usually close companions; and, unfortunately, these factors and the great mass of the colored population are also virtually inseparable. It is not difficult, therefore, to understand why most of the major diseases, particularly those most directly affected by economic conditions, reap a larger harvest of death and invalidism among Negroes than among white people.

The part played by low income levels in the country's health drama has been stressed so often and so forcefully by others as not to call for repetition here. The following quotation from one of many reports is significant:

"In Massachusetts (where a long series of death records is available) 16 out of every 100 infants born alive in 1880 died during the first year. In that commonwealth today, the average loss is four deaths in every 100 infants born alive. Yet, as recently as 1931, infants in Denver families with an annual income of less than \$500 died at the same rate as average Massachusetts infants in 1880, while among Denver families with incomes of \$3,000 or more there were only three infant deaths for each 100 live births. In Cleveland in 1928, infants in the poorer districts died at the rate of 10 per 100 born alive, while infants in the better economic areas had a rate of five."

Although, as already pointed out, the Negro death rates are considerably higher than the white rates for the vast majority of diseases that afflict white and black alike, any discussion of the health of the Negro should pay more than passing attention to two diseases which are particularly serious factors in the health and general well-being of the colored race. These two diseases are tuberculosis and syphilis.

In an address in Montgomery, Dr. H. E. Kleinschmidt, director of public health education of the National Tuberculosis Association, pointed out several months ago that the tuberculosis death rate for Negroes was now as high as the white rate was a few decades ago. The records of the Bureau of Vital Statistics of the State Department of

Health, which go back to 1914, do not show a single year in which the white tuberculosis death rate in Alabama was as high as the colored rate for this disease in 1936. In fact, in only four years since 1913 (1914, 1916, 1917 and 1918) did the rate for the two races combined exceed the 1936 rate for Negroes alone.

This does not mean that there has been little or no progress in the curbing of the Great White Plague among the colored people of this State. Indeed, quite the contrary is true. In 1914, 175 Negroes out of every 100,000 living in Alabama succumbed to this disease. In 1917, under the stress of war, more than 204 out of every 100,000 did so. In 1936 the ratio dropped to less than 113 out of every 100,000. This means that, unless they have succumbed to other diseases or accidents, there were, on January 1, 1937, approximately 650 Negroes in this State, presumably well and self-supporting, who would have died of tuberculosis in 1936 if the 1914 tuberculosis death rate had prevailed. Thus the tuberculosis picture, as far as the colored race is concerned, while not as favorable as that of the white race, shows that unmistakable progress has been made. The outlook is most encouraging for even greater progress in the future.

Unfortunately, the syphilis picture, as far as the Negro is concerned, is not so encouraging. Forty colored people out of every 100,000 living in the State died as a direct result of contracting this disease in 1936. The ratio of syphilis deaths to population in that year was more than twice as high as that for the year 1914 and was higher than that for any previous year for which the State Department of Health has any records, with the single exception of 1928.

Syphilis among Negroes thus constitutes one of Alabama's great unsolved problems and it is equally serious in other states having large Negro populations. It is hoped that a realization of its seriousness will bring about a nation-wide determination to reduce this disease's power to kill and cripple human bodies and minds. A long step in that direction is the LaFollette-Bulwinkle bill recently passed by Congress, which provides for a long-continued, wide-scale campaign against this and other venereal diseases, to be carried out by state departments of health with funds made available by the Federal Government. Such a campaign cannot fail to prove a boon to the Negroes of Alabama,

approximately one-fourth of whom are estimated to be syphilitic.

It is well for physicians and others to realize that the health of the Negro is a powerful factor in the health of all people. A contagious disease may be transmitted as readily from a colored servant or playmate to a white child as to a colored child, since germs recognize no racial barriers. Thus, from motives of enlightened self-interest, as well as from those of pure, high-minded humanitarianism, all should recognize the problem of Negro health as a universal problem and, during Negro Health Week and at other times, approach it with complete understanding of the part it plays in the health and happiness of society generally.

Committee Contributions

Maternal and Infant Welfare

ANTISYPHILITIC TREATMENT IN PREGNANCY

Congenital syphilis is preventable in more than a majority of cases when adequate and early treatment can be given the pregnant woman. Only a few years ago, Dr. J. E. Moore wrote: "If the patient, usually symptomless and in the best of health, can be persuaded to continue treatment without interruption for one year after the blood Wassermann reaction (and spinal fluid) has become and has remained negative, treatment may be *discontinued and omitted during subsequent pregnancies* (italics ours) and the patient followed by repeated physical and Wassermann re-examinations for a number of years."¹

The Cooperative Committee made up of specialists from the large venereal disease clinics of the United States has completely revised our thinking and treatment of the pregnant woman. In the 1936 Cooperative Clinical Studies we find the statement: "A woman with syphilis should be treated during *every* (italics ours) pregnancy if congenital syphilis is to be completely controlled."

Varying amounts of treatment in various individuals will produce a negative Wassermann reaction so that it becomes necessary

for the physician not only to take blood for the Wassermann test but also to inquire carefully into the past history of the patient regarding previous treatment and miscarriages and premature deliveries. With a history of previous treatment, whatever the amount, or a suspicious number or types of premature deliveries, the physician should insist upon continuous treatment throughout pregnancy.

It is a well known fact that pregnant women as a whole tolerate antisyphilitic treatment better than non-pregnant women. With this in mind the physician can easily explain to the patient that treatment is primarily for the child—not necessarily to have a live baby (since, after several pregnancies without treatment, the woman may have a live but syphilitic baby who will be sickly) but that she may have a well baby. Few women will refuse treatment regardless of the discomfort when they understand that it will mean a well baby.

In order to control congenital syphilis we must keep in mind and act upon a few cardinal facts:

1. That all pregnant women should be seen early (by the third month) in their pregnancy that they may have adequate treatment started as early as possible if syphilis is present, diagnosis of syphilis to be made on history of symptoms, previous pregnancies ending in miscarriages or premature labors, and a positive Wassermann reaction.

2. That a negative Wassermann reaction is not important if the patient gives a history suspicious of syphilis or if she has had any treatment previously.

3. That all women with (1) a positive Wassermann reaction, (2) a history of previous antisyphilitic treatment, or (3) a history of syphilis *must* have early (before fourth month of pregnancy) and continuous treatment if congenital syphilis is to be controlled.

4. That adequate treatment means the giving of arsenicals or bismuth weekly, the amount dependent upon the duration of pregnancy when treatment is started.

5. That the later in pregnancy treatment is started the more strenuous the treatment needs to be. This will mean an overlapping of the arsenicals and bismuth. The Cooperative Clinic Studies have shown that the giving of arsenicals and bismuth on the same

1. Cooperative Clinical Studies 17:38-45 (Feb.) 1936.

day produces no additional reactions. The course of treatment should end with arsenicals for the last month of pregnancy.

Your Committee feels that the matter of congenital syphilis is of sufficient importance as to direct all physicians to keep in mind the above facts when dealing with pregnant women regardless of their social or economic status.

Prevention of Cancer

WOMEN'S FIELD ARMY

The Women's Field Army, organized by the American Society for the Control of Cancer, began its work in Alabama in 1936 under Mrs. W. C. Blasingame, who, in March 1937, was succeeded as State Commander by Mrs. G. W. Adams of Andalusia. Though reference has been made in the columns of the Journal to the units constituting the Army, repetition is not amiss since the physicians of the State should be thoroughly familiar with an organization to which they are expected to give advice and direction.

The Association's Committee on Prevention of Cancer, with the State Commander, forms the Executive Committee of the Women's Field Army. Locally, the Cancer Committee of the County Medical Society, with the County Captain, forms the County Executive Committee.

As can be seen readily, the organization of the Army can go ahead only as fast as the medical profession wills it to go and goes with it. While the Committee on Prevention of Cancer has been working with the State Commander since the beginning of the Field Army's work in Alabama, the work of organization in the counties has not taken shape as rapidly as had been hoped. The Executive Committee feels that the cause would be helped materially if all county medical societies would appoint a cancer committee to work with the women of their respective counties; an action that should be taken as early as possible in 1939.

Through this organization, as is being done in the fight against tuberculosis and, more recently, syphilis, educational and enlistment campaigns will be instituted. The lectures to lay groups must necessarily be given by physicians. Literature and a film strip are available on request for physicians who

wish to make talks to either lay or professional groups.

Responsibility for the course in cancer control in each county rests with the individual medical society. It is urgent, therefore, that each society appoint a cancer committee to work with the State Committee and with the Women's Field Army. A luncheon meeting for those interested in the cancer control program is being planned by the Women's Field Army for January 1939 in Birmingham. Newspapers will carry further notices of the meeting. The State Committee hopes that many physicians will avail themselves of the privilege of meeting with the women at that time.

RADIUM LOAN FOR HOSPITALS

Congress at its seventy-fifth session passed the National Cancer Institute Act which created the National Cancer Institute. Among other things for which the Act provides is the lending of radium to hospitals which are qualified to handle it. Dr. R. R. Spencer, Executive Assistant of the National Cancer Institute, has announced that radium is now available for the hospitals of Alabama, that need and are qualified to handle it.

The following is a summary of the more important regulations for the loan of radium:

(1) Other facts being equal, preference will be given the applications that receive the approval of the State Health Department.

(2) The National Cancer Institute will designate, when deemed necessary, a staff member or other competent person to make an investigation of the hospital or institution, its equipment and available working facilities.

(3) The personnel who are to have control and use of the radium must have professional qualifications equal to those required for diplomates of the American Board of Radiology.

(4) Prior to the shipment of the radium, the applicant will be required to take out and deposit with the National Cancer Institute an insurance policy protecting the government against all loss or damage to the radium.

(5) No charge can be made a patient for the use of government-owned radium. (This

does not refer to medical, nursing, or hospital fees.)

(6) Clinical records of the patients treated must show details of such treatment, as well as the results of the follow-up in each case.

(7) Borrowers will be required to submit a brief report at the end of each fiscal year (on the number of patients who have been treated with the government-owned radium).

While these regulations may seem rather rigid, yet there are hospitals at the present time in Alabama which can meet them. Application blanks may be secured from the State Health Officer by those who are interested in securing radium for treatment of the indigent and medically indigent of our State.

Public Relations

JEFFERSON COUNTY'S STUDY OF MEDICAL CARE

"The Jefferson County Medical Society report of the Survey of the Need and Supply of Medical Care is so complete in all its phases as to deserve special mention. . . . The county medical society not only conducted the study in an exceptionally thorough manner but also made a careful and scholarly analysis of the facts."¹

With these words of commendation the Bureau of Medical Economics of the American Medical Association prefaced its digest of the report of 131 typewritten pages. Believing that the Bureau's epitome will prove of interest to the profession throughout the State, it is being reprinted in the paragraphs which follow:

The sources of information which form the basis of this study are given in table 1.

The fact that only 58 per cent of all physicians and dentists answered their questionnaires, as compared to 100 per cent of the various agencies, does not necessarily indicate that the professions were the least interested in the survey. The difference is partially accounted for by the manner in which the data were collected. When agencies did not respond by mail the proper parties were interviewed personally. This procedure was not possible with physicians and dentists. Because of their large number, contact was entirely by mail and by telephone.

Due credit should be given to the various welfare, relief and health agencies for their willing-

ness to furnish all available information; of all the groups approached they appeared to be the most interested and most cooperative.

TABLE 1.—*Distribution of Questionnaires*

	Number Sent	Number Returned	Per Cent Returned
Physicians and dentists	586	342	58.3
Hospitals	14	14	100
Nursing organizations	3	3	100
Health departments	1	1	100
Welfare, relief and unofficial agencies	37	37	100
School systems	6	6	100
Colleges	3	3	100
Other organizations (chiefly industrial)	74	74	100
Pharmacists	171	171	100
Totals	895	651	72.7

PHYSICIANS AND DENTISTS

There are in Jefferson County 438 physicians and 148 dentists engaged in active practice. This excludes those who have retired and a few who are completely occupied in administrative capacities. There is one physician for each 1,089 of the general population.

The nature of the data requested of members of both professions precludes the presentation of actual figures; only estimates are available, though it is felt (after checking the reports made by physicians with those from the various institutions and agencies) that these estimates are conservative and probably considerably understate the facts.

Returns were received as shown in table 2.

TABLE 2.—*Questionnaires from Physicians and Dentists*

	Number Sent	Per Cent Returned
Physicians, total	438	64.4
Members of county medical society	352	68.2
Nonmembers of county medical society	86	48.8
Dentists	148	40.5
Total physicians and dentists	586	58.3

If the data, based on actual reports of 64.4 per cent of all practicing physicians and 40.5 per cent of all practicing dentists, are truly representative of medical and dental practice in this locality, the figures obtained can appropriately be extended to include all those who have not returned their questionnaire. When such figures are combined with data obtained from all the various institutions and agencies, the total charity load may be conservatively estimated as in table 3.

Approximately one half of charity patients applied directly to physicians and dentists and received free treatment, while one half were treated in hospitals and clinics. These figures definitely indicate that the charity load of physicians in home and office practice is fully as great as the charity load carried by physicians in all institutional practice, including hospitals, outpatient departments and clinics of all the various agencies.

Besides the incalculable number of hours given by physicians in the medical care of hospital inpatients, they devoted an estimate of 41,000 hours

1. J. A. M. A. 111: 2213-2217 (Dec. 10) 1938.

to the free care of ambulatory cases in outpatient departments and dispensaries and to preventive medical care in various health centers and clinics. For all this they received nothing except nominal compensation for approximately 5 per cent of their time.

Seventy-four per cent of physicians perform preventive medical services. Of ninety physicians reporting on the amount of preventive medical work done for charity and for pay, 37 per cent stated that they did no charity work, 25 per cent reported that less than 50 per cent of their preventive medical services were for charity, while 38 per cent reported that more than 50 per cent of such work was for charity.

Compensation for preventive medical services (in significant amounts) is made by only two organizations. The health department paid \$4,054 to forty-two physicians and \$948 to eighteen dentists for 2,054 hours of work in health centers. The Anti-Tuberculosis Association paid \$1,305 to five physicians for clinic sessions. With minor exceptions all other medical and preventive medical services were performed by physicians without remuneration.

DENTISTS

The participation of dentists in this study has been disappointing. Questionnaires were sent to all 148, but only 40.5 per cent replied. Many of these were incomplete.

TABLE 3.—Total Charity Load of All Physicians and Dentists

	Patients	
	Number	Distribution
Home and office practice	54,650	54.3%
Hospital inpatient practice	12,678	12.6%
Outpatient and clinic practice	33,251	33.1%
Total	100,579	100.0%
Cared for by physicians	88,131	87.6%
Cared for by dentists	12,448	12.4%

TABLE 4.—Availability of Medical Care

	Physicians and Dentists	
	Number	Per Cent
Present facilities and methods for providing medical care are adequate; no change indicated	32	21
More adequate provisions are needed to furnish medical, dental or hospital care to low income groups and to the indigent	76	50
Other comments not pertinent to foregoing classification	45	29
Total	153	100

The amount of charity work done by dentists cannot be estimated very closely, but on the basis of individual information it appears that the charity load of the individual physician is more than twice that of the individual dentist. The charity load of all physicians is probably more than eight times that carried by all dentists.

AVAILABILITY OF MEDICAL CARE

Of physicians and dentists commenting on the availability of medical care, 80 per cent knew of no instance in which persons had been unable to

obtain medical, dental or hospital care. Twenty per cent reported instances in which persons were unable to obtain such care.

The majority of physicians expressed some opinion regarding the adequacy or inadequacy of present methods and facilities for providing medical care. The interpretation of these opinions has been difficult, and for that reason the data should be regarded as only an approximation.

TABLE 5.—Charity Hospital Services

Hospital	Number of Indigent	Per Cent of Total
County Hospital	10,855	85.6
Children's Hospital	736	5.8
Norwood Hospital	350	2.8
Children's Home Hospital	232	1.8
Jefferson Sanatorium	225	1.8
St. Vincent's Hospital	184	1.4
Salvation Army Hospital	71	0.6
West End Baptist Hospital	25	0.2

TABLE 6.—Services Performed by Nursing Organizations

	Nurses	Patients Served	Per Cent of Patients Served as Charity
Private duty nurses (Nurses' registry only)	208	5,712	0.8
Public health and visiting nurses			
Health department	41	22,187	100
Metropolitan Life	5	2,012	0
Total	254	29,911	55.7

The most frequent comment made was an expression of the need for a part pay clinic and hospital for the low income group which would also provide for the specialized services such as x-ray and biopsy free or at reduced rates.

HOSPITALS

There are in Jefferson County fourteen hospitals with a total capacity of 1,689 beds, or 3.5 beds per thousand of the population.

Hospital rates vary from a low of \$1.50 a day for ward beds to a high of \$10 a day for private rooms. These rates are not excessive.

Of a total of 41,000 patients cared for in local hospitals, 31 per cent were for charity. The average stay of pay patients in hospitals was 8.7 days, as compared to an average stay of 12 days for charity patients.

The load of charity hospital services was carried as shown in table 5.

Six hospitals operate outpatient departments or associated clinics and served 37,710 persons, of whom 18,081 were charity patients.

As regards inpatient services, most pay hospitals report the rejection of patients because of their inability to pay or because beds were not available. The number of persons rejected cannot be determined.

The County Hospital reports a need for 100 additional beds. All hospitals emphasize the need of providing for hospitalization of contagious diseases. As regards sanatorium beds for the treatment of tuberculosis there are now available for white persons only 72 per cent, and for Negroes only 5 per cent of those considered necessary for this county.

Group hospital insurance seems to have been an important factor in Jefferson County in making hospital care available to the general public, though there is no indication that it has served to lighten the load of charity hospital service. Of an estimated number of 62,375 persons carrying hospital insurance providing complete or practically complete coverage, approximately 11,000 carry insurance through the Hospital Service Corporation and the remainder through various industrial arrangements.

NURSING SERVICES

Services performed by the various nursing organizations may be summarized as in table 6.

The number of private duty nurses available through the nurses' registry, though small, appears adequate to serve those patients who can afford to pay for nursing services. There is one public health nurse for each 12,000 of the general population; accepted standards for good public health practice call for one nurse for each 2,500 of the population.

Nurses comment on the lack of provision for hospitalization of cases of contagious disease. Of a total of 3,653 contagious disease patients receiving some nursing care, 3 per cent were served by private duty nurses, the remainder by public health and visiting nurses. Approximately 65 per cent of the 22,187 individuals served by the health department nurses were clients of the department of public welfare.

Time does not permit an adequate summation of the work of the health department; furthermore, the general familiarity of the profession with the nature of its services makes this unnecessary.

HEALTH DEPARTMENT

In 1937 the health department employed 113 persons in maintaining the following services: administration, records and vital statistics, laboratories, health education, food control, sanitation, child and maternal hygiene, public health nursing, and school health education.

Table 7 briefly outlines some of the major activities.

The health department is well organized and its activities are well conducted. Its usefulness, however, is greatly limited through lack of funds. The committee does not feel that a detailed report of the financial needs of the health department is pertinent to the present discussion except to state (1) that expenditures for public health in Jefferson County are not only small but fall more than 50 per cent short of the requirements for a minimum program which may be consistent with safety and (2) that, while state subsidy to Jefferson County for county health work has increased in recent years, such subsidy on a per capita basis is still only 50 per cent of that allocated to other counties and should be increased.

A detailed discussion of the financial status of the health department has been submitted to the board of censors for its information and for such action as it may deem appropriate.

TABLE 7.—Major Activities of Health Department

1.	8,627 births and 5,832 deaths recorded
	8,110 transcripts issued
2.	73,866 specimens (of value in the diagnosis of infectious diseases) were examined for physicians of Jefferson County
	10,143 specimens of food and 3,087 samples of water from public water supplies examined
	The commercial value of this laboratory work by conservative estimate amounted to 1½ times the cost of operating the entire health department
3.	5,049 inspections of retail food establishments
	171,758 veterinary inspections of animals slaughtered at packing houses
	15,554 dairy inspections
	230,000 pounds of food condemned
	27,622 improvements effected
4.	22,685 sanitary inspections of public and private premises
	6,670 nuisances abated
	1,596 toilet facilities improved or installed
	631 cases of contagious diseases isolated
	1,732 contacts quarantined
5.	954 public lectures given
	1,132 moving pictures shown
	52 radio talks given
6.	53,804 visits by nurses to 22,187 persons
	12 maternal and child hygiene, and 4 dental clinics operated serving 8,070 persons who were seen by physicians or dentists

PRIVATE AND GOVERNMENTAL WELFARE, RELIEF AND UNOFFICIAL HEALTH AGENCIES

Of the thirty-seven agencies included in the category of private and governmental welfare, relief and unofficial health agencies, twenty-seven are financed by the community chest. Fourteen agencies either arrange for or furnish medical or dental care. Ten arrange for or provide care in physicians' or dentists' offices, while six arrange for or provide care in the home. Eleven agencies attempt to arrange for hospital services, though none should be considered as actually doing so as most hospitals have their own rules for accepting patients regardless of who may refer them for care. Seven agencies provide limited supplies of drugs.

Clinics are maintained as shown in table 8.

TABLE 8.—Clinics Maintained by Agencies

	Number of Visits*
Department of public welfare	1,890
Antituberculosis association	3,911
Fresh air farm	350
Juvenile court	1,500
Trinity community house	3,131
Total clinic visits	10,782

*All numbers are estimated.

Those agencies which operate clinics render a direct service. Most others seek medical care for their clientele by requesting physicians to render services without charge or by utilizing other charity institutions. The more important charity organizations which carry the great bulk of the charity load, and which are most commonly utilized by all the various agencies are the antituberculosis association, children's hospital and clinic, county hospital and clinic and the health centers of the health department.

It is estimated that approximately 7,100 persons were provided with care through direct efforts of all the various social agencies. They report a total of 1,270 persons for whom care could not be obtained; 1,100 of these were reported by the department of public welfare.

DEPARTMENT OF PUBLIC WELFARE

Because of its importance, special mention should be made of the department of public welfare. During the year 1937 the department averaged approximately 4,000 families who received financial assistance. These were made up of those over 65 years of age, households with children under 16 where there was no employable head of the family, and those entirely physically or mentally handicapped to earn a living. The case load represents a high percentage of individuals having physical disabilities.

Because of limited funds, appropriations for prescriptions, drugs, visits of physicians and medical appliances must all be kept on the same inadequate basis as the monthly grants, which in their entirety are below the subsistence level for food.

A total of \$1,308 of city-county funds was expended for maintenance of a medical office in Birmingham, while \$1,585 in city-county funds was expended in maintaining a clinic in Bessemer; to the latter the Works Progress Administration added \$3,911. The total expenditures by the department of public welfare (from all sources) was \$6,804 for the medical care of the sick in 4,000 families. Of this total physicians received \$289.

Provisions for home and office visits of physicians are for emergency cases only and are entirely inadequate to meet the medical needs of persons on relief. The clinic facilities in Bessemer are, of course, available only to persons on relief who live in that district. Under the circumstances it is not surprising that medical care was not obtained for an estimated number of 1,100 persons.

SCHOOLS

There are six school systems with a total enrollment of 103,000. Two systems with approximately half this enrollment provide for medical and dental inspection of pupils. In the other four systems the health status of the child rests with the teacher or public health nurse, and arrangements for medical examination and care must be made through family physicians, clinics, health centers or other means as circumstances permit. One failure of existing school health programs lies in the inability to make medical examinations at regular intervals. As a result many defects which might be corrected through private or public means are never discovered. Furthermore, facilities are not available to follow up properly those children who need corrections in an effort to see that they are obtained.

MEDICAL CARE IN INDUSTRIES

Forty-nine establishments provide medical care of employees only in case of accidents. Twenty-two firms furnish complete medical care for approximately 190,000 employees and dependents. With minor exceptions medical care provided by industries is judged to be adequate. Of the employees of all companies which provide complete medical care, 92.3 per cent have free choice of physician and may elect medical care by fee deduction or in two instances may accept such services from the company without cost to them-

selves. Approximately 2,900 individuals are given medical care through mutual benefit associations or by similar arrangements.

PHARMACISTS

The reports from pharmacists are not sufficiently reliable to merit attention. Of interest, however, was their comment regarding the needs for medical care.

Of seventy-nine pharmacists making comment, four considered present facilities for medical care adequate; three made miscellaneous comment. Seventy-two favored a change in methods or facilities for providing medical care and thirty-two of these favored some unspecified form of governmental control, four advocated utilization of the community chest, while thirty-six offered no plan or suggestion.

NEEDS FOR MEDICAL CARE

Physicians and dentists in home, office and institutional practice, on very conservative estimate, cared for from 100,000 to 116,000 charity patients. Despite this tremendous charity load carried by the professions, it appears that present facilities are inadequate and that many needy persons were unable to obtain medical care.

The actual number of persons unable to obtain such care cannot be determined with accuracy. What is perhaps more important than arriving at the actual number is an appreciation of those circumstances under which medical care is ordinarily not available.

There is not great difference of opinion between physicians, dentists and the various social and health agencies as to the inadequacies of facilities and the present circumstances under which medical care is not available. These inadequacies are expressed in the following recommendations made by these groups in answering questionnaires.

The most commonly expressed opinions of physicians, dentists and the various social agencies for additional needs are:

1. Part pay clinics and hospital for the low income group.
2. Dental clinics (performing preventive and restorative services for the indigent).
3. Provisions for home care of the indigent and follow-up care of those discharged from hospitals. Also ambulance service to charity hospitals for the critically ill.
4. Better facilities for the treatment of syphilis.
5. Provision for hospitalization of contagious disease cases.
6. More sanatorium beds for the treatment of tuberculosis.
7. More adequate provision for the care of transients and nonresidents.
8. Increased facilities at Hillman Hospital and clinic, larger social service staff.
9. Increased facilities of health department.

The various agencies also expressed the following opinions which were not commonly expressed by members of the professions. Need for:

1. Payment through public funds of physicians

and dentists for home, office and institutional care of the indigent.

2. A centralized social service bureau to serve all agencies.

3. Provision for health examination of persons over 12 years of age.

4. Psychiatric clinics; more adequate hospital provisions by the state for the care of mental cases.

5. More adequate provision for drugs, teeth, eyeglasses and so on.

6. Child guidance clinic.

7. Ear clinic for the treatment and prevention of hearing defects.

8. Better organization of medical resources.

RECOMMENDATIONS

1. The committee endorses in principle a part pay hospital and clinic for the low income group, which group it designates as those whose income level is just above that established by the Hillman Hospital in its "basic guide for determining indigency."

2. In order to differentiate between charity, part-pay and pay patients the committee feels that it will be essential to establish a dignified and efficient business bureau with a social service department to investigate thoroughly the financial status of patients. This should be a centralized service functioning for all charity and part-pay institutions including the Hillman Hospital and clinic, department of public welfare, health department and others.

3. The committee recognizes the total inadequacy for hospital care of cases of contagious disease (both pay and indigent) and feels that some provision should be made.

4. The committee feels that local appropriations for public health in Jefferson County are not only small but fall 50 per cent short of the requirements for a minimum program. Furthermore, state subsidy to Jefferson County for county health work, on a per capita basis, is only 50 per cent of that granted to other counties and should be increased.

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

NOVEMBER 1938

Examinations for diphtheria bacilli and Vincent's	1,450
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	458
Typhoid cultures (blood, feces, urine)	742
Examinations for malaria	2,027
Examinations for intestinal parasites	8,505
Serologic tests for syphilis (blood and spinal fluid)	12,949
Darkfield examinations	23
Examinations for gonococci	1,438
Examinations for tubercle bacilli	1,121
Examinations for Negri bodies (microscopic)	67
Water examinations (bacteriologic)	718
Milk examinations	1,937
Pneumococcus typing	25
Miscellaneous	1,131
Total specimens	32,591

A NEW PUBLIC HEALTH PROBLEM ?

Equine encephalomyelitis appeared in epidemic proportions during the past summer in certain of the New England States. The epidemic apparently started at Narragansett race track in Rhode Island and from this focus spread in an easterly and northerly direction including the Boston area. The cause of the disease was a filterable agent known

as the Eastern strain of the equine encephalomyelitis virus. This strain of virus has distinct differences from that designated as the Western strain; these differences are manifest in immunologic tests; that is, animals immunized against one strain of virus are not protected against the other.

In the area in which the epidemic of equine disease occurred in New England a number of human cases of encephalitis also appeared. Most of these cases were in children and were rapidly fatal. Study of these cases showed them to be due to infection with the equine virus, according to a report by Fothergill, Dingle, Farber and Connerley.¹ Other cases studied by Webster and Wright² at the Rockefeller Institute in New York confirmed this finding.

The clinical picture in these patients included abrupt onset, with high fever, headache, leukocytosis, generalized rigidity, convulsions and rapidly developing coma. Lumbar puncture revealed fluid under increased pressure, an increase in protein content but a normal concentration of glucose, and the

1. Fothergill, L. D., Dingle, J. H., Farber, S., and Connerley, M. L.: Human Encephalitis Caused by the Virus of the Eastern Variety of Equine Encephalomyelitis, *New England J. Med.* 1938, 219, 411.

2. Webster, L. T., and Wright, F. H.: Recovery of Eastern Equine Encephalomyelitis Virus from Brain Tissue of Human Cases of Encephalitis in Massachusetts, *Science* 1938, N. S. 88, 305.

presence of a large number of white cells with polymorphonuclear leukocytes predominating.

Postmortem studies revealed acute encephalitis, severe edema and congestion of the brain and cord, generalized visceral congestion, interstitial pneumonitis and pulmonary edema. The encephalitis was characterized by perivascular aggregations of large mononuclear and polymorphonuclear cells with few lymphocytes, diffuse slight infiltration of the meninges by the same types of cells, and areas of polymorphonuclear and microglial infiltration about dead or injured neurons. These changes were seen in numerous areas of the cortex, mid-brain and brain stem but were absent in the cord.

As to how the virus is transferred from the horse to man is not known but several species of mosquitoes have been shown capable of transmitting the virus from horse to horse. Since this is so, there is at least a possibility that these insects may act as a vector in human infection.

The reason for reference to these reports is that this is the first instance in which a virus of equine encephalomyelitis has been positively shown to produce a similar disease in man.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

TYPHOID MARY

AN OBITUARY*

Typhoid Mary has made her final appearance in the nation's news. Her death this month at the age of seventy brought to an end a much-publicized period of nearly thirty years' isolation in a New York City institution. Although she may appear no more in the news, Mary Mallon will live forever in medical annals.

Mary owed her fame to a sanitary engineer, George A. Soper. Studying several outbreaks of typhoid fever in suburban New York homes in the early 1900's, Soper found the water and food supplies to be beyond suspicion. As an engineer, he might well have concluded his investigation at this point. But, in his search for factors that might be common to typhoid-stricken house-

holds, Soper looked beyond the end of his nose and found that one Mary Mallon had served as a cook in many of the afflicted homes and that the disease always followed but never preceded her engagement. Bacteriologic examination of her feces showed Mary Mallon to be a chronic typhoid carrier. Interestingly enough, Mary seems to have sensed this before anyone else because when typhoid appeared in the family she served, although she had no M. D. or D. P. H. degree, she thought it best to leave at once, without giving a forwarding address.

Typhoid Mary strikingly illustrated the importance of the chronic carrier in causing typhoid fever. She is largely responsible for the important public health procedure of making thorough search for a carrier among those who have been in intimate association with, or who have prepared food for, the typhoid patient. Like 20 per cent of all typhoid carriers, Mary never suffered from any illness recognized as typhoid fever. Her case demonstrated the fact that a considerable number of carriers might be overlooked if a search for carriers were confined to those persons giving a history of previous typhoid fever.

From 1907 to 1910, while incarcerated by health officials, Mary sought release by legal means. The New York Supreme Court upheld the community's right to keep her in isolation. In recent years it has not been necessary to confine a typhoid carrier, modern control methods being based on frequent supervision of the carrier in his home. However, the established right of the community to require isolation has been applied to other chronic contagious diseases, notably in the cases of careless or dangerous tuberculosis patients.

Perhaps because of popular sentiment in her favor, Mary was released from confinement in 1910. She promptly disappeared. In the next couple of years typhoid fever occurred in a New Jersey and a New York hospital, affecting more than 200 people. Typhoid Mary had returned to her old occupation of cook and had worked at both hospitals under an assumed name. This experience taught health officials that a typhoid carrier must always be kept under close supervision and never be permitted to handle food or drink intended for public consumption. The later years of Typhoid Mary's isolation were largely voluntary. If she wish-

*From *Health News* of the New York State Department of Health.

ed she might have availed herself, as many other carriers have, of the knowledge that there is at least a 60 per cent chance that a carrier may be cured by removal of the gall-bladder.

Rest in peace, Typhoid Mary Mallon. Yours was the ill fortune to bring illness directly to hundreds. Yet because of the drama of your life, your compulsory and self-imposed confinement—features that attracted and focused the glare of publicity on the role of typhoid carriers in the occurrence of disease, you have been the agent for formulation of public health procedures which have and will continue to prevent many times the number of typhoid cases that you caused.

LATE SYPHILIS

The following problem has been raised: A patient has a negative serologic reaction. There is a history of having been infected with syphilis several years previously. Some treatment had been given but it was irregular and probably very inadequate. Physical examination reveals only a slightly enlarged aorta with symptoms of aortitis. Does this patient have syphilis?

A case like this certainly means progressing syphilis infection in spite of the negative blood reaction. Bodon of Budapest believes that the Wassermann reaction is positive in only 1/3 of the cases of syphilitic aortitis. This figure is perhaps too high but it is probable that up to twenty per cent of cases of syphilitic aortitis show a negative serologic reaction.

If a case like the one under discussion is left untreated, the individual will probably develop an aneurysm and die an early death as a result. Whereas, if treatment is begun and continued for at least 2 years by modern methods, there is every likelihood that further progression will be prevented and the disease will be arrested.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

DENTISTRY IN PUBLIC HEALTH

There is ever-increasing recognition among health workers that the teeth as an integral part of the human body have an important function in the promotion of personal health. It is realized that the teeth are

subject to general influences that may affect the entire human mechanism and that, therefore, the hygiene of the teeth and mouth is also an integral part of preventive medicine and public health.

Public health dentistry touches nearly every phase of public health activity and while, in Alabama, it is included in the maternal and child health program, the prenatal and early period of life offering the best age periods for preventing dental disease, it by no means should be limited to these groups. People of all ages should have and use dental health information.

Dentistry has improved remarkably in the last twenty-five years. The average graduate from a school of dentistry today feels, very sincerely, that he is entering a profession having value in health service. The early American dentist merely looked at a patient's teeth, found the obvious cavities, filled them and dismissed the patient. Now, he observes a mouth behind each tooth. He has learned how an occasional infection about a tooth root can be transmitted to a knee joint, a heart valve, or a kidney pelvis and he sees a patient behind each mouth. Furthermore, he has seen the Social Security Act begin to function and discovers that there is a community behind each patient. Dentists are ever becoming more interested not only in the general physical health, but likewise in the mental, emotional and social health of the citizens of their communities.

Unfortunately, patient knowledge of the importance of dentistry and dental health lags far behind that of the dentist, physician, and public health worker. Then dental health education for the layman is an important weapon which may be used to combat dental caries. We recognize that dental health education alone will not solve the problem. Nutrition, exercise, early dental care and good personal hygiene are universally recognized as valuable adjuncts in the prevention of caries. Some dental health education can be taught in the ideal teaching situation by the dentist to the patient in the dental chair and some knowledge of adequate dentistry can be spread by means of organized dental health programs, lectures, radio broadcasts, and newspaper articles. However, the most fruitful source for health teaching is the school room. It has been observed that comparatively few teachers have

sufficient authentic basic information to direct an approach to the school child's dental health training.

The average lay person's dental knowledge is still a curious combination of fact, folk-lore, and proprietary nostrum or food product advertising and much of the teacher's knowledge comes from the same sources. The enormous bombardment of dietary claims, dentifrices and proprietary preparations has apparently accomplished some things. It has caused laymen, many teachers, some public health workers and perhaps a few dentists to forget that the human being has his own typical physiology which definitely limits the realization of the advertisers' claims; to forget that an adequate and fortified diet helps a child to grow jaws and calcify well-formed teeth in early life but does not necessarily prevent dental caries; and to forget that dental caries after all is a bacterial infection as is tuberculosis, diphtheria or typhoid fever.

There are a few things that can be taught in a sound dental health program. The health workers of Alabama recognize this fact and an earnest effort is being made to inculcate these principles in the present program, as follows:

(1) We urge the early formation of the important dental health habit of regular dental inspection, treatment, and filling of cavities. The dentist is pictured as a friend, not an ogre to be feared. (2) The next important attitude urged is the desire to eat a fortified, well-balanced diet for good growth and a low sugar and low starch diet for good teeth. (3) Another important attitude emphasized is the idea that toothbrushing properly done can accomplish some worthwhile objectives. However, we do not teach that the use of the toothbrush is a cure for all dental health ills. (4) Another important teaching is that mouth habits affect the arrangement of the teeth and that unsightly tooth arrangement can and should be corrected. (5) We also emphasize that the use of drugs and proprietary mouth products is to be made only on the advice of a dentist, physician, or other qualified person.

The family physician, dentist and health worker, therefore, have a splendid opportunity to unite their forces to influence the health of all people in the promotion of dental health.

BUREAU OF SANITATION

G. H. Hazlehurst, C.E., M.C.E., Director

CHANGE IN WPA POLICY

WITH REFERENCE TO MALARIA CONTROL

There is current need for a brief discussion of the state-wide malaria control work now in progress with special reference to the drainage work being done by the Works Progress Administration.

Since the beginning of work relief projects back in 1933, through the periods when this emergency organization has been known as RFC, ARA, CWA, and WPA, the State Department of Public Health has cooperated fully with these agencies. It has been able, through broad scope policies, to stay in line with the varying rules, regulations, and policies of the different set-ups of the work relief agencies. As a result, effective service along public health lines, as well as participation in the success of the work relief programs, has been rendered.

Aside from the fact that the health laws of Alabama provide that all public health work done in the state shall be through or in connection with the State Department of Public Health, the work relief agencies have earnestly sought assistance from the Bureau of Sanitation, which has been the major connecting link. The matters of selecting justifiable work projects and certain supervisory personnel qualified to work on these projects have been referred to this bureau. In making recommendations the bureau has adhered closely to a definite policy. First, consideration has been given to the cost of projects on the basis of the number of people to be benefited. The work must be for the purpose of reducing malaria hazards, as in an endemic malaria area. Personnel must be selected for their ability.

Certain changes in policy relating to the state-wide malaria control drainage project as conducted during 1938 by WPA, instituted in December and affecting the methods of starting a drainage project, will probably be continued into the new year. The main difference or change in requirement is that individual units of construction will also have to be approved by the U. S. Bureau of the Biological Survey and the engineering division of WPA prior to the inauguration of

construction. In this connection WPA requires that a complete engineering survey and estimate of each unit of construction be submitted in triplicate to the state office at Montgomery. Therefore, application for each unit must be made in five copies at the source. One is retained in the county health department and four sent to the Bureau of Sanitation, State Department of Public Health, at Montgomery, Alabama.

In order to facilitate the preparation of projects on a state-wide basis, this bureau has prepared special forms which should be secured for use in submitting unit applications. Several weeks are required for a unit application to go through the process of approval. This delay in starting a project should be considered when an application is submitted.

In counties where sufficient labor is available to warrant the services of a full-time superintendent of the project, WPA has provided one. He is charged with the preparation of initial engineering data and with the operation of the project. His relationship to the county health department is limited but quite sufficient. He receives directions for operations and management from WPA but comes under the technical direction of the Bureau of Sanitation. He receives the justification of projects and property damage easements from the county health officer. This arrangement places the desired control of malaria projects in the county health officer. The technical direction and policies of operations are properly placed in the Bureau of Sanitation and the Works Progress Administration, respectively. In counties where no full-time superintendent is provided, the county sanitation officer may function part time in this capacity under the same regulations. Where the services of a superintendent or a sanitation officer can not be made available, no work can be done. Several counties are operating malaria control drainage projects with full-time superintendents while a lesser number are operating with sanitation officers.

The new procedure for securing this type of project through WPA is a workable one, offering better control than was previously secured. Additional time, effort, and administrative costs over the former procedure are required to place the project in operation.

O. G. Q.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	1938		Estimated
	Oct.	Nov.	Expectancy Nov.
Typhoid	35	17	33
Typhus	60	25	18
Malaria	1468	435	395
Smallpox	3	0	2
Measles	34	46	28
Scarlet fever	152	119	189
Whooping cough	95	143	74
Diphtheria	277	119	237
Influenza	144	212	223
Mumps	33	21	31
Poliomyelitis	11	2	4
Encephalitis	1	2	2
Chickenpox	19	93	81
Tetanus	9	6	6
Tuberculosis	268	158	236
Pellagra	35	25	20
Meningitis	10	11	6
Pneumonia	172	229	177
Syphilis	1880	1537	137
Chancroid	9	11	7
Gonorrhea	284	289	157
Ophthalmia neonatorum	1	0	1
Trachoma	0	0	0
Tularemia	0	1	0
Undulant fever	4	3	2
Dengue	0	0	0
Amebic dysentery	4	1	0
Rabies—Human cases	1	0	0
Positive animal heads	38	31

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

Joint meeting of the Southeastern Surgical Congress and the Southwestern Division of the Association was held at the Selma Baptist Hospital, November 25, 1938, with the staff of the hospital as hosts. Clinics were held as follows: Medical—Dr. Seale Harris; Gynecologic—Dr. Gilbert Douglas; and Surgical—Drs. Robert Sanders, Memphis; T. C. Davison, Atlanta, and Alton Ochsner, New Orleans.

Dr. Ochsner also addressed the luncheon meeting held at the Selma Y. M. C. A., his subject being "Etiology, Diagnosis and Treatment of Peripheral Vascular Lesions."

* * *

The Third National Social Hygiene Day is scheduled for February 1, 1939. The American Social Hygiene Association describes it as "another milepost on the road to syphilis control. A long stretch ahead, but we are on our way."

The Northwestern and Southwestern Divisions of the Association met conjointly at the Veterans' Facility, Tuscaloosa, December 8. Essayists included Dr. Gerald H. Teasley, Athens; Dr. Kellie N. Joseph, Birmingham; Dr. William P. Bland of the Facility; Dr. B. T. Beasley, Atlanta; and Dr. W. G. Harrison, Jr., Birmingham.

Luncheon was held at Doster Hall on the University campus, the speakers being Drs. W. D. Partlow, Stuart Graves, Seale Harris and J. S. McLester—the theme, A Four-Year Medical School for Alabama.

* * *

The Third Congress of the Pan-Pacific Surgical Association will be an event of September 15-28, 1939 in Honolulu. There will be sections in fractures and orthopedics, general surgery, ophthalmology, otolaryngology, roentgenology, plastic surgery, thoracic surgery, neuro-surgery and neurology. Communications for information should be directed to George W. Swift, M. D., 902 Boren Avenue, Seattle.

* * *

The American Congress on Obstetrics and Gynecology will be held in Cleveland, September 11-15, 1939. Sponsored by the American Committee on Maternal Welfare, it will be the purpose of the Congress to present a program of present-day medical, nursing and health problems from a scientific, practical, educational, and economic viewpoint so far as they relate to human reproduction and maternal and neonatal care.

* * *

Dr. J. H. Goode, Tuscaloosa, announces the removal of his offices to 1424 University Avenue, and the installation of x-ray, diathermy and basal metabolism equipment.

* * *

The Second Annual Session of the Atlanta Graduate Medical Assembly is called for January 16-19 at the Biltmore Hotel, Atlanta. Speakers will include Drs. Walter C. Alvarez, Dean Lewis, Edward A. Schumann, Emil Novak, Horton Casparis and Fred Wise.

The Assembly is designed to afford all physicians of the Southeastern States an opportunity for a well-balanced postgraduate course.

* * *

The New Orleans Graduate Medical Assembly scheduled for February 6-9 in New Orleans promises to be the largest yet held from the standpoint of attendance. Speak-

ers include Drs. Paul H. Ringer, Harry J. Shields, N. C. Gilbert, C. W. Lane, C. M. Jones, J. C. Masson, C. C. Sturgis, F. C. Ebaugh, M. E. Davis, H. S. Gradle, A. B. Gill, W. P. Wherry, W. D. Forbus, F. F. Tisdale, A. U. Desjardins, C. Gordon Heyd, I. S. Ravdin and Robert Herbst.

A small registration fee of \$10.00, which covers all of the features, including four roundtable luncheons as well as the smoker, makes it possible to enjoy four full days of medical education, combined with recreation in the interesting city of New Orleans. Ample provision will be made for the entertainment of the ladies. A postal card addressed to the New Orleans Graduate Medical Assembly, 1430 Tulane Avenue, New Orleans, will bring especially interesting information concerning the program as well as other attractions.

* * *

The Mississippi Valley Medical Society offers a cash prize of \$100.00, a gold medal and a certificate of award for the best unpublished essay on a subject of interest and practical value to the general practitioner of medicine. Entrants must be members of the American Medical Association. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society at Burlington, Iowa, September 27, 28, 29, 1939, the Society reserving the exclusive right to first publish the essay in its official publication—*The Mississippi Valley Medical Journal* (Incorporating *The Radiologic Review*). All contributions must not exceed 5,000 words, be typewritten in English in manuscript form, submitted in five copies, and must be received not later than May 1, 1939. Further details may be secured from Harold Swenberg, M. D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Ill.

* * *

The Philadelphia County Medical Society announces the completion of its scientific program for the Fourth Annual Postgraduate Institute to be held in the Bellevue-Stratford Hotel, Philadelphia, during the week beginning March 13, 1939. The subjects to be considered are those embraced by the terms blood dyscrasias and metabolic disorders.

All inquiries should be addressed to the

Society at Twenty-First and Spruce Streets, Philadelphia.

* * *

Formal opening and dedication of the George Eaves Clinic, 1901 Avenue F, Birmingham, was held November 27. This modern, fireproof, central clinic for the diagnosis and treatment of tuberculosis was made possible by the united efforts of the Jefferson County Anti-Tuberculosis Association, Jefferson County, the City of Birmingham and the Works Progress Administration.

* * *

The Sixth Annual Scientific Meeting of the Georgia Pediatric Society was held in Augusta on January 12. Panel discussions were a feature of the sessions, subjects embraced being "The Diet of Infants and Young Children"; "Nephritis"; and "Anemias of Infancy."

* * *

Applications for permission to take the written examination of the American Board of Ophthalmology on March 15 must be filed with the Secretary, Dr. John Green, 6830 Waterman Avenue, St. Louis, not later than February 15.

* * *

The Southern Section of The American Laryngological, Rhinological, and Otological Society met in New Orleans on January 14.

* * *

Sectional meeting of the American College of Surgeons will be held in Nashville, Tennessee, with headquarters at the Andrew Jackson Hotel, on January 18, 19 and 20.

Distinguished surgeons from all parts of the country who will address the sessions are Dr. Howard C. Naffziger of San Francisco, president of the American College of Surgeons; Dr. George Crile of Cleveland, chairman of the Board of Regents; Dr. Irvin Abell of Louisville, vice chairman of the Board of Regents and president of the American Medical Association; Dr. Alton Ochsner, professor and director, Department of Surgery, Tulane University, New Orleans; Dr. Frank E. Adair, New York City, chairman of the Committee on Malignant Diseases, American College of Surgeons; Dr. Charles C. Higgins, member of staff, Cleveland Clinic; Dr. Frank K. Boland, Professor of Clinical Surgery, Emory University School of Medicine, Atlanta; Dr. James T. Nix, New Orleans, Professor of Surgery, Louisiana State

University Medical Center; Dr. Fred W. Rankin, surgeon, St. Joseph's and Good Samaritan Hospitals, Lexington, Kentucky; and others.

Besides the operative and non-operative clinics in general surgery and the surgical specialties which will, as is customary at these sectional meetings, be held each of the three mornings in local hospitals, there will be on the afternoons of the first and second days a new feature—clinical assemblies. These will be held in the War Memorial. Four midday panel discussions will be held from 11:30 to 12:30 each of the three days. On Wednesday, January 18, the subjects will be: End-Results of Gallbladder Surgery; Evaluation of Cancer Therapy; Thoracic Surgery, and Reduction in Appendicitis Mortality. On Thursday, January 19, the subjects will be: Hypertension and Surgery; Rehabilitation of Poor Surgical Risks; Abnormal Uterine Bleeding; and Urinary Obstruction and Infection. On the last day the subjects will be: Peptic Ulcer; Cancer; Toxemias of Pregnancy with Relation to Subsequent Health; and Interpretation of Surgical Lesions of the Colon and Rectum with Special Consideration of their Ultimate Effect on Patients.

Hospital conferences and panel discussions on administrative and professional problems in hospitals will be held each day, and medical motion pictures covering general surgery and eye, ear, nose and throat surgery will also be shown daily. A Fracture Clinic is scheduled for Friday morning, January 20, and a Cancer Clinic for the afternoon of that day. The meeting will close with a session which will be open to the public on the subject of Conservation of Health.

Graduate training for surgery and the surgical specialties will be discussed at both the hospital and surgical sessions.

The medical profession at large, as well as hospital trustees, superintendents, nurses, and other hospital departmental personnel, will be interested in this meeting, at which there will be no registration charge. Members of the State Medical Association are most cordially invited to attend.

* * *

The Abner W. Calhoun Medical Library of Emory University, Emory University, Georgia, is collecting southern medical periodicals of all dates. Any one who wishes to have such old medical journals preserved

and would like to donate them to this library is requested to communicate with Miss Mildred Jordan, the Librarian, at the above address. It is thought that such literature might be found especially in the libraries of the older practitioners. Complete files of southern medical periodicals for the past two or three decades are possessed by the Calhoun Library, but most files of the older periodicals are very incomplete. The Calhoun Library extends its services to members of the medical profession all over the South. Usually the journals desired are lost, destroyed or stored away in places where they are never seen. At the Calhoun Library they will be taken care of indefinitely in a place where they will be available to medical students and members of the medical profession.

* * *

The International College of Surgeons will hold its Assembly in New York City at the Hotel Roosevelt on May 22nd, 23rd and 24th.

Dr. Edward Frankel, Jr., of 217 East 17th St., New York City has been appointed by the International officers as General Chairman of this Assembly.

* * *

The general oral, clinical and pathological examinations for all candidates, Part II Examinations (Groups A and B), of the American Board of Obstetrics and Gynecology will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Notice of time and place of these examinations will be forwarded to all candidates well in advance of the examination dates.

Candidates for reexamination must request such reexamination by writing the Secretary's Office before the following dates: Part I—January 1, 1939; Part II—April 1, 1939. Candidates who are required to take reexaminations must do so before the expiration of three years from the date of their first examination.

Application for admission to Group A, May 1939, examinations must be on file in the Secretary's Office by March 15, 1939.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

Book Abstracts and Reviews

Diseases of the Blood and Atlas of Hematology. By Roy R. Kracke, M. D., Professor of Bacteriology, Pathology and Laboratory Diagnosis, Emory University School of Medicine; and Hortense E. Garver, M. D., Instructor in Laboratory Diagnosis, Emory University School of Medicine. Cloth. Pp. 515, with 44 color plates and 17 other illustrations. Price, \$15.00. Philadelphia, London, and Montreal: J. B. Lippincott Co., 1937.

This volume was written to meet the need for a text including both the laboratory and clinical phases of diseases of the blood and an American Atlas of Hematology. Most of the books on this subject previously published have been prepared in European countries.

A notable inclusion is found in the colored plates and a section on terminology intended to clarify the confusion that has existed relative to the identification of cells and the use of hematologic terms.

In the preparation of the plates, fields have been drawn from actual specimens and all of the cells shown are from verified cases of the different diseases represented. The cases were, for the most part, seen by the authors. A few of the illustrations represent composite blood pictures and where such is the case justification is found in the recognized principle in teaching that all diagnostic features cannot be demonstrated in a single microscopic field.

In the section on hematologic technique, at least one method demonstrated to be satisfactory in the hands of the authors has been included in each instance. Particular attention has been given the selection of simplified techniques in this connection.

Sections of the volume have been contributed by various workers: Dr. James J. Clark on Roentgenologic Treatment of the Leukemic States; Dr. Francis P. Parker on Blood Groups and Blood Transfusion; Dr. Elizabeth Gambrell on Malaria; and Dr. R. P. Custer on Bone Marrow.

In the preparation of the manuscript the authors have freely consulted the sources of authoritative material in hematology, such as the annual review by Sturgis and Isaacs, Minot and Castle, and Piney. They have also had translated and have extensively referred to the textbook on hematology of Naegeli. In this way the present Atlas reflects the composite opinion of American and European hematologists.

The sections of the book deal with (1) hematologic terminology; (2) the development and morphology of blood cells; (3) leukocytosis and leukopenia; (4) the anemias; (5) the leukemias; (6) hemorrhagic diseases; (7) miscellaneous, e.g., infectious mononucleosis, polycythemia vera, malaria, etc.; and (8) the hematologic technique. A useful inclusion is a chapter on the blood picture of normal laboratory animals.

The print and make-up of the volume is excellent, the illustrations are clear and authentic and the style pleasing. At the moment there is no other American text to compare with this one and it is recommended as well worth while for any student of the subject whether he be an undergraduate or a postgraduate in medicine.

S. R. D.

Synopsis of Clinical Laboratory Methods. By W. E. Bray, B. A., M. D., Professor of Clinical Pathology, University of Virginia; Director of Clinical Laboratories, University of Virginia Hospital. Second edition. Cloth. Pp. 384 with 51 test illustrations and 17 color plates. Price, \$4.50. St. Louis, Missouri: The C. V. Mosby Company, 1938.

This book completely covers the subject of clinical laboratory methods. The volume is small, so that descriptive matter is, of necessity, brief. This brevity appears to limit the usefulness of the book to that group of persons who possess sufficient information concerning clinical laboratory procedure to supply the necessary detail; to this group the book should prove an excellent guide.

The book is well written and numerous illustrations are given. One questions the desirability of the inclusion of such controversial matters as a fourth species of malaria and a sixth species of ameba in a volume of this kind.

C. B.

Sickness Insurance in Europe. By J. G. Crownhart, Secretary, State Medical Society of Wisconsin. Paper. Pp. 134. Price, \$1.00. Madison, Wis.: Democrat Printing Company, 1938.

Shortly after his return from Europe, where he had made an extensive study of the various forms of sickness insurance in effect in the Old World, the author of this book visited Washington to attend the National Health Conference and there met a friend of long standing.

"I know your report is not ready," the friend said, "but tell me: Can you visualize a system of sickness insurance for this country?"

The author's answer was: "Yes, at a price."

That, he points out near the end of this brief volume, is still his answer to the often recurring question of the practical wisdom of bringing this institution, which, for better or for worse, appears to have a pretty strong grip upon Europeans, to the United States. And, before one has read more than just a few pages, one reaches the conclusion that in his opinion the price is too high—that, as practiced in European countries, sickness insurance would fail to serve its proper function in the United States.

Many alleged weaknesses of the currently operating systems are held up to criticism. The doctor under these systems must step out of his professional medical role to the extent of helping the sick to receive cash benefits for time lost from work as a result of illness, since sickness compensation is usually tied up with the provision of medical care. If, in his capacity as administrative officer, the physician permits his cash payments to run into too large a total, there are not enough funds to insure the patient's receiving the medical care he needs. The physician, as a result of this condition and others, becomes primarily an agent of the government and only secondarily a professional man devoting his life to the prevention and cure of disease. The physician's professional conduct is conditioned, not by his professional ethics but by the necessities of his position as an employe of the government. Administrative costs may be, and presumably are, higher than they should be. Such systems offer

a constant invitation to politicians to corrupt them for political purposes. And so on.

"Sickness insurance is a leveling device," the director of one of the large public health institutes in Denmark told the author. "It assures the mediocre physician just about the same rewards as he who would give an outstanding service if he were to have time. The incomes tend to be leveled, but that is not all—the tendency over the years is to level the services to something that is neither bad nor good. But the incentive is gone and we develop fewer brilliant minds in our teaching centers and America captures the lead in health and methods to regain it."

The frequently praised English system fares no better than the others under Mr. Crownhart's searching study. After pointing out that the cost of sickness insurance in that country amounts to \$9.36 per capita per year, paid on a fifty-fifty basis by the individual patient and his employer, and that this payment entitles him to "a limited service from a general practitioner, with drugs, but without coverage for hospital, nurse, dentist or specialist," the author tells about a typical English workman and the type of service he receives:

"The physician that Jones has selected will have evening office hours from 6 to 7 or 7:30, after which he has his evening meal. These are the hours that Jones as an employed person probably will use in order not to lose time from his work. If Jones lives in an area where there are many insured persons and a physician has more than a thousand on his panel (and he may have the limit of 2,500), Jones is apt to find a reasonably full waiting room when he goes to his doctor. The number waiting in typical offices seen by the writer averaged between twenty and thirty. These will be seen by the physician in his hour or hour and a half. He must see them all."

Under such circumstances, with an average of perhaps a patient every three minutes, it would appear that anything like complete examinations or studies of individual health problems would be entirely out of the question. And that is true, Mr. Crownhart insists.

The author's observations on the English system are, in the main, similar to those found elsewhere in his book. He is not harshly critical of sickness insurance as it is found in Europe, but he leaves no doubt as to his lack of sympathy with proposals to introduce similar systems into the United States.

J. M. G.

The Occupational Treatment of Mental Illness. By John Ivison Russell, M. B., Ch. B., F. R. F. P. S. (Glas.), D. P. M. Medical Superintendent, North Riding Mental Hospital; Visitor, Mental Deficiency Institutions, N. R., Yorkshire; Examiner in Occupation Therapy to the Royal Medico-Psychological Association; Examiner to the Association of Occupational Therapists. Cloth. Pp. 231. Price, \$2.50. Baltimore: William Wood and Company, 1938.

In this book the author has corrected a misconception which has existed in many of our minds, namely, that the term "occupational therapy department" connotes the teaching of handicrafts by a trained occupational therapist only, with the

sole purpose in mind of keeping the patient busy. Conversely, treatment should begin with the medical officer in charge of the ward who, after taking a careful history and examining the patient, writes out specific orders which the nurses and therapists are to follow in each individual case. The observation has been frequently made that clinical results are better when patients are assigned to work which pleases them; obviously too, fewer disasters occur when dangerous patients are prohibited the use of knives, scissors, awls or otherwise dangerous instruments. The classification of patients from a therapeutic standpoint, therefore, depends largely upon the proper diagnosis of the case and the only individual equipped to make this decision is the physician in charge.

Since the various occupations, such as basketry, brush making, mat making, book binding, weaving, concrete and cast stone work and a score of others unmentioned, can best be taught by practical demonstration, these subjects are dealt with only superficially by the author.

The most obvious adverse criticisms which the reviewer observed in reading the book are those which can be applied to the use, in the United States, of most books written by English writers; namely, the use of terms with which we are unacquainted and the recommendation by the author of products of English firms which are necessarily more costly and difficult to procure in this country.

Overlooking the above mentioned criticism, the book contains much knowledge of practical value and is recommended to be read by physicians interested in the care of mental patients as well as occupational therapists and nurses.

J. J. R.

Mental Therapy—Studies in Fifty Cases. By Louis S. London, M. D., formerly Passed Assistant Surgeon, United States Public Health Service; Medical Officer, United States Veterans Bureau, etc. Two volumes. Cloth. Pp. 427; 428-774. Price, \$12.50. New York: Covici.

The author, formerly a passed assistant surgeon in the United States Public Health Service and a medical officer in the United States Veterans Bureau, dedicated these two volumes to "the physicians of the State Hospital Service in the United States, who are performing a noble service in the care and treatment of the insane." These volumes make extremely interesting and informative reading because of the unique approach and arrangement of the material employed by the author in driving home to the reader, through meticulous study of individual cases, the necessity for microscopic scrutiny and accurate classification, if psychoanalytic methods are to avail. Beginning as a student in Freudian psychology in 1913, he has continuously and persistently employed the psychoanalytic method. He says "psychiatry and psychoanalysis are interwoven, and the knowledge of one is essential to the understanding of the other. Those of us who have studied psychiatry for years, not from textbooks or by attending meetings but from intimate associations with the insane through hospital life, appreciate the genius of Freud and see through

his work the real causes of mental mechanisms in the neuroses and psychoses."

The opening chapter sketches interestingly the evolution of psychotherapeutics. In discussing animal magnetism and its first explorer, Mesmer, the author makes this observation: "The results of the widespread interest in animal magnetism were among the contributory factors that led later to the development of two important methods of healing—one was Christian Science, the other osteopathy, which is really a form of animal magnetism." There then follow brief, interesting chapters dealing with psychoanalysis, the dream, psychosexual psychology of the child and psychosexual pathology of the sexual instinct. In these, no attempt is made to deal, in exhaustive fashion, with these subjects; the intent of these chapters is rather to give the average or general practitioner a working insight into the techniques to be employed and their value, if any degree of success in this difficult field is to be attained. The author's observation that "the homosexual component plays a predominant role in both neuroses and psychoses" is one too commonly overlooked.

There then follow detailed case histories of fifty selected cases, carefully analysed, arranged and elaborated upon, illustrative of various types of mental disorders encountered in the clinical field. Such an arrangement furnishes a quick and ready reference for the practitioner, when confronted with a "problem case" in the mental field and about which he is seeking more light. Amongst these fifty studied cases, he will likely find one which more or less accurately tallies with his own.

One of the very useful and valuable features of these volumes is the glossary to be found at the close of the second volume, which simply and accurately defines each and every special term employed by psychiatrists and who, as is well-known, revel in speaking "a lingo" all their own.

J. N. B.

Food and Physical Fitness. By E. W. H. Cruickshank, M. D., D. Sc. Cloth. Pp. 148. Price, \$2.00. Baltimore: William Wood and Company, 1938.

This interestingly written book is based upon a series of lectures given at the University of Aberdeen. It is written in a manner understandable by the general public. Dr. Cruickshank subdivides his material into the following sections: The Energy Needs of the Body; Foodstuffs and Their Fuel Value; Mineral Salts in Nutrition; Vitamins and Dietary Deficiency Diseases; Dental Caries; Vegetarianism; Food Economics; and Under-Nutrition and Its Relation to Diet.

In the section on "Mineral Salts in Nutrition" the author lists six things which happen to milk when it is boiled, thus giving the idea that the heat treatment of milk is of questionable value. Pasteurization of milk is accepted by the medical profession as the most reliable milk to give infants as well as children and adults. Such a statement directed to the general public is misleading and it is not in conformity with the consensus of opinion concerning the use of pasteurized milk.

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Miscellany

HOW SULFANILAMIDE WORKS

The effectiveness of sulfanilamide in the treatment of certain diseases is due to its weakening of the invasive capacity of micro-organisms, John S. Lockwood, M. D., Philadelphia, Alvin F. Coburn, M. D., and Herbert E. Stokinger, Ph.D., New York, declare in *The Journal of the American Medical Association* for Dec. 17.

This action's effectiveness is determined by the type of lesion present rather than the causative bacteria. Sulfanilamide should be considered an agent which aids, and in no way replaces, antibacterial immunity.

The authors base their remarks on a study of 250 patients treated with sulfanilamide in 1936 and 1937. The bacteria were identified in each case. Each patient was seen daily by at least two of the authors. The drug was administered at intervals of either four or six hours, chiefly by mouth.

The infections treated were caused by the streptococci capable of dissolving the red blood cells and meningococcus (meningitis), gonococcus (gonorrhea), and pneumococcus (pneumonia).

The diseases treated included scarlet fever, tonsillitis, sinusitis, otitis (infection of the ear), mastoiditis, erysipelas, pneumonia, bacteremia, endocarditis (inflammation of the membrane lining the heart), primary peritonitis, chronic surgical infections with draining sinuses, early abscess formation, cellulitis (inflammation of the tissues directly under the skin), infected diabetic gangrene, meningitis, puerperal fever and skin infections.

The ill effects due to the drug were: mild cyanosis, symptoms of the gastrointestinal tract and of the central nervous system, fever, abdominal pain and acidosis, severe rash, jaundice, anemia, hemoglobin in the urine and a deficiency of the white granule cells, and secondary reactions and late manifestations, such as fever, enlargement of the liver and spleen and severe cyanosis.

Sulfanilamide was most effective in the treatment of bacteremia, erysipelas and cellulitis; it was highly effective in early infections with little pus formation. It had a questionable effect in scarlet fever, tonsillitis, sinusitis, otitis and mastoiditis. It was ineffective when abscesses were well established, except perhaps in limiting their fur-

ther spread and protecting normal surrounding tissues against invasion when drainage was used. The drug had no effect on toxemia of streptococcic origin.

The presence in the lesion of waste products and dead matter diminished the effectiveness of sulfanilamide on the hemolytic streptococcus. In each instance the organisms remaining in broken-down tissue maintained their virulence. It is not known whether the waste products and dead matter had a protective action on the organisms or whether there was insufficient penetration of the drug into the point of infection.

IRON ABSORPTION

Experiments on dogs by P. F. Hahn, Ph.D., W. F. Bale, Ph.D., E. O. Lawrence, Ph.D., and G. H. Whipple, M. D., Rochester, N. Y., have proved that iron will be absorbed by the body only when it is needed, they report in *The Journal of the American Medical Association* for Dec. 17.

The authors fed iron to both anemic and nonanemic animals, finding that the latter, not having any need of the mineral, would not absorb it.

PRECAUTIONS SOMETIMES RESPONSIBLE FOR COLDS

The very precautions that Junior's parents take to protect his health during the winter months may be responsible for his catching cold, says Jay N. Fishbein, M. D., Providence, R. I., in his article, "Why Children Catch Colds," in the January issue of *Hygeia*, *The Health Magazine*.

An anxious mother often forces her child to spend many minutes in an overheated house being tucked into his wraps. She warns him against catching other children's colds and against playing in the snow, then sends him, overdressed, outdoors "to play." Because he is not given an opportunity of developing any natural immunity, a cold follows.

Parents should, however, determine whether there also are physical causes for the occurrence of frequent colds, such as diseased tonsils or adenoids or infected sinuses. The pampered child often may be undernourished because he is allowed to eat unbalanced meals, and he may lack proper rest because he can persuade his parents to delay his bedtime.

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FALLACIES IN THE CONDUCT OF LABOR*

By
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Birmingham, Ala.

In contrast to the brilliant progress in obstetric science is the manner of application of this progress by practitioners of obstetrics. Over decades of years the evolution has been toward greater technical and clinical perfection. Verily, the forces of civilization have united, en masse, to promote the welfare of the expectant mother and new born, and yet, despite these sociologic efforts, the record of obstetric service bears evidence of an antisocial response. Puzzling is such a situation as the means for enlightenment and guidance are numerous, for every physician that assumes obstetric responsibilities.

No one man, be he physician or otherwise, can lay claim to omniscience, and, being human, he must cast off the cloak of infallibility. This consciousness of humanism should stimulate the desire for knowledge and still more knowledge; it must ever remain the spark plug that provides the current to check and recheck the abilities and capacities for special work and its proper performance. Just as the cloak of infallibility must be cast aside by the individual physician, so must the cloak of charity be withdrawn, by the entire medical profession, from those whose acts of omission and of commission deserve disapproval.

There are many ways to achieve personal improvement. New knowledge may be sought; experience may be evaluated and a review of routine commonplace duties may be scanned. It is this last mentioned source of improvement that appeals to the writer and that will provide the subject material for a discussion of "Fallacies in the Conduct of Labor."

*Read before the Association in annual session, Mobile, April 19, 1938.

Fallacy No. 1—The Interpretation of the Trite Obstetrical Saying, "Let Nature Take its Course." Perhaps not one in the range of my voice can remember the origin of this remark but all can recall having "cut teeth," as embryo practitioners, upon this relic of folk lore and of superstition. A long period of observation leads one to express the opinion that this dictum means that the child must be born spontaneously, regardless of extenuating circumstances. This is the literal significance, but other sidelight interpretations include (1) the fact that the family is in the obstetric saddle and directs the doctor and (2) the fact that the busy practitioner eagerly hides behind such a subterfuge for inattention to obstetric work. It is a travesty upon intelligence to limit the scope of "let nature take its course" merely to the actual birth of the baby. In every labor case, from start to finish, nature asserts itself by bringing to the surface signs and symptoms pertaining to the welfare of mother and child. These are discernible to the attendant that studiously conducts a case. Evidence of dehydration, a rapid pulse, meconium-stained fluid, fetal heart changes, a full urinary bladder, a hyper-irritable uterus and many other factors come within the purview of nature taking its course and are more legitimate grounds for charting a future course than the layman's version of this age-old obstetric creed.

It is utterly impossible to suppress the resultant reaction of stimuli to the human organism. No where in medicine is the reaction more acute and profound than in the obstetric field. This is nature taking its course with a vengeance. Then, let it be advocated that all of us become disciples of this truism, not from ignorant tradition but from reason that flows from the higher faculties. Let us embrace it as a stepping stone to a more creditable service.

Fallacy No. 2—Inadequate Preparation of the Field of Operation, Instruments, Drugs

Solutions and Supplies. Woman, when normal, is an uncertain quantity, and when in childbirth, becomes more complex. The occasion of certainty never presents itself during labor and the medical attendant that practices on the theory of assumption, woos the fickleness of Fortune and may be sacrificed upon the altar of stupidity. The three stages of labor are as distinct entities as are the prenatal period, labor and the puerperium. Consequently, preparedness for the emergencies that might rise in any one of the stages must be observed. No argument could support the doctor should he lose a mother today from infection, because he saved her life from hemorrhage previously, and, when so doing, worked through an unprepared field. Another illustration: What comfort would a doctor receive before the bar of justice if a mother had been lost as a result of bleeding from a torn cervix, if and because the necessary preparation for combating such a condition had been neglected. And, again, a sudden fetal indication may necessitate prompt delivery. Is it fair to the child to allow it to perish because instruments are not sterile; and is it fair to the mother to hastily run the forceps through alcohol, and, in order to save her child, subject her to an additional hazard? These questions are not the reflection of unkindness nor of unreasonableness. They reflect facts based upon known actual happenings. They are mentioned to emphasize the truth that a labor case *can* be safely cared for at home with the proper set-up and the faithful execution of the principles of asepsis and surgical technic. The fallacy, in this instance, is the delivery of a woman on the hunch that everything will be all right and, because of such prophetic foreboding, life-saving means are abandoned.

Emergency is an herald of necessity, and necessity, we are told, is the mother of invention. Upon the cosmic highway it may become necessary to depend upon man's ingenuity in the time of unexpected distress; but, upon the highway of posterity, the flare for inventiveness should never be substituted for orderly and complete preparedness. To those who glory in reciting how they pulled through an obstetric crisis, through the use of makeshift treatment, let the warning be sounded that the gods make proud those they will destroy.

Fallacy No. 3—The Misuse of Pains. No

brief can be valid against the intelligent use of second-stage pain, while a devastating broadside can be directed at the vicious and harmful use of pains.

It is a fact that a patient does not understand the mechanism of labor nor the economy of pains. The physician must guide her conduct at this time. Therefore, what points constitute a rule of procedure? (1) Use pains only in the second stage. (2) Use each bearing down effort during the acme of the pain. (3) Observe the results of expulsive efforts. These principles are fundamental and when abridged or violated the following ill consequences may ensue: (1) cervical laceration, (2) malrotation, (3) rupture of the uterus, (4) maternal exhaustion, (5) fetal injury, (6) abruptio placenta through compression of the placental site, (7) uterine inertia or (8) uterine tetany with ring formation. The time has long since passed when the inquisition of labor, through the misuse of pains, should be enacted. If the science of the conduct of labor does not dictate the proper management by the medical attendant, perhaps the appeal of compassion, the desire of conservation of life, may establish the iniquity of misuse of pains—a fallacy that is widespread.

Fallacy No. 4—Inattention to Uterine Behavior. The uterus being a muscular structure is responsive to stimuli as any other muscle tissue. There are powerful and multiple influences arising during labor that cause uterine action to become vitiated. When the reaction is adverse, the resultant consequences are of significance to mother and child. Uterine rings and tetanic contraction are of serious import to both—serious to the mother as an item of delivery and serious to the child as an item of asphyxiation. Since uterine behavior varies in different individuals and in succeeding pregnancies in the same individual, the obstetric attendant must be on the alert to pick up distress signals when broadcast. There is always cause for effect in uterine behavior. Much can be done to prevent unfavorable conditions while only limited means are available to correct them. Then, it logically follows that prophylaxis is the sheet anchor of management and this can best be done by careful observation during labor. If this course was more universally adopted, if the genuine significance of the mechanical forces of labor was more adequately evaluated, there would be less

administration of pituitrin and the physician would lift himself from the fallacy under discussion.

Fallacy No. 5—Misinterpretation of the Lack of Progress of Labor. Normally, labor is a cycle of progression. Progress is not denoted by the equation of time but by dilatation of the cervix, descent and rotation of the presenting part. When any of these factors are arrested, the signal of mechanical difficulties is broadcast in unmistakable fashion and it devolves upon the attendant to properly interpret the situation. The badge of service does not condone misinterpretation, which is the forerunner of a "man-handling" type of management. For instance, early rupture of the membranes, cephalo-pelvic disproportion, malposition, malpresentation, uterine rings, uterine inertia, maternal exhaustion, hydramnios, multiple pregnancy and soft structure abnormalities are some of the influences that cause an arrest of labor. Each one of the aforementioned influences demands a separate and definite solution. It is a genuine fallacy to assume that a "rule of thumb" will dispose of these conditions and their attendant consequences. Therefore, the physician must know more about the why of delayed labor, rather than to depend upon the judgment and ability of when and how to correct this complication, if he is to save himself from the stigmata of criticism as a contributor to maternal and fetal fatalities.

Fallacy No. 6—Early Departure from the Newly Delivered Woman. There is no substitute for the medical mind in things medical, nor is there a counterpart for the eye and tactile sense of the one that should see and feel reactions that are essentially medical. It is a mistake to delegate, to the uninformed, responsibilities involving the preservation of life, and more egregious is the error to depend upon artificial means—e. g., oxytocics and abdominal binder—to watch for and report upon symptoms that are of great magnitude.

Such conclusions are inescapable when the attending physician leaves the puerpera, before the first hour postpartum, unless a graduate nurse is in attendance. Should the doctor depart from the case under an hour after delivery, he should instruct the nurse to remain by the bedside until the first hour has passed and as long thereafter as she may

deem necessary. Surely, no one is better qualified to determine the proper location, size and consistency of the fundus uteri than the graduate nurse and doctor—no one more logical to interpret the constitutional signs and symptoms of hemorrhage. Too frequently, the nurse proceeds with attention to the baby and when she has bathed and dressed it and the procession forms to take the baby in for an inspection by the mother, an exsanguinated woman may be found instead of the smiling, happy mother. The fallacy of leaving the newly delivered mother too early brings to mind a practice that is to be mentioned so that it may be cordially, heartily and unreservedly condemned. Representatives of pharmaceutical houses present doctors with oxytocic preparations under many trade names, but always under one panaceal virtue; namely, that they will contract the uterus and keep it in a state of contraction. This is a vicious service but wins converts among physicians in obstetric practice. If there is to be a routine to be observed, within the first hour or two after delivery, let that routine be the presence of the medical attendant and not the use of oxytocics. If there is to be any form of conversion, let its Christianizing influence be erected upon the broad principles of sanity and not upon the spurious arguments of inanity.

Fallacy No. 7—Improper Handling of the Delivery of the Placenta. The obstetric attendant that fully understands the mechanism of placental separation will not trespass beyond the limits of a liberal indulgence in this respect. To hurriedly express the placenta; to make traction upon the cord; to attempt a shoe horn delivery or other types of premature manual removal bears mute evidence that the dew of information of the proper delivery of the placenta has fallen as futilely upon such an attendant as a spring shower falls upon a bank of sand. Immediate and delayed hemorrhage; total prolapse and eversion of the uterus; and profound maternal shock are the gaunt spectres that will be silhouetted on the scenes of childbirth should this fallacy be invoked in obstetric service.

The fallacies in the conduct of labor herein reviewed probably could be multiplied; but these, at least, constitute a partial roll call of factors that stand upon the dim mysterious margin that separates the finite from the infinite, that change the filmy loveliness of

motherhood into the heavy pall of martyrdom.

These thoughts have not been brought to you because the writer was seized by and yielded to the emotions of an evangelist. No, far removed from such thoughts was the frame of mind of the writer when this message was written. All of us have succumbed to the subtle and treacherous intrigue of the fallacies that have been reviewed. Hospitalization of maternity cases is not a deterrent of obstetric disservice. It happens there the same as it does in home work. Specialization is not a guarantee that the imperfections of the attendant may not and will not overshadow triumph. Then, why this message at all? So that our thoughts may revert to realism; that our service may reflect fidelity to vows: that our hearts may swell with the crescendos of the paeans of joy and thanksgiving of the heroines of childbirth—mothers; that ever upon the sands of time, along the pathway of our lives, may be written, "and a little child shall lead them."

1117 S. 22nd Street.

THE DIAGNOSIS OF INTRACRANIAL TUMOR*

By

WILLIAM A. SMITH, M. D.

Atlanta, Ga.

The diagnosis of intracranial tumor involves a large number of conditions by reason of the numerous types of tumor, with their individual life history, and the numerous locations in which they may arise. Consequently, in the limited time at our disposal, we can only discuss the problem in general terms. We shall omit analysis of the various types of tumors with their peculiarities of localization and rate of growth. A complete diagnosis should give an answer to three questions: Is a tumor present, what is its location and what is its probable nature? However, these questions cannot always be answered in the order given. Thus, the conclusion that a cerebral tumor is present is often based on the progressive course of a lesion of known localization. In other cases

the signs of marked increase in intracranial pressure are indicative of a neoplasm, but there are no signs of its localization until ventriculography is done.

The cranial cavity is a common site of neoplastic development. In a recent report¹ of some 5,000 autopsies, there were 188 intracranial tumors and 1,270 tumors of other regions, giving an incidence of about 16 per cent of all tumors. Walshe² quoted Cushing as stating that the brain ranks second only to the uterus in frequency of neoplastic invasion, and found cerebral tumors to be the most common of organic nervous system diseases admitted to a large neurologic clinic. Under 15 years of age, 40 per cent of all malignant tumors occur in the brain.³ No age is exempt. Such frequency should stimulate the interest of all physicians in the subject. While the presenting symptoms may be obviously neurologic, the early symptoms may suggest disease of other organs, especially ocular, aural or abdominal.

The course of the disease is most varied; while in many cases there is a progression of symptoms over a period of weeks or months, there may be sudden death without previous symptoms, as in certain ventricular cysts or when hemorrhage into the tumor occurs; or, as in malignant types of glioma, symptoms may develop rapidly and threaten life within a week or ten days. In slowly growing types of glioma, the patient may suffer with convulsive seizures for 20 years or more before a diagnosis is made. These differences in course are determined both by the type of tumor and also the location. In general, tumors which obstruct the circulation of cerebrospinal fluid, as in the fourth ventricle, give a rapid course, while those which do not, give a slower course. The malignant types of glioma, such as the medulloblastoma occurring in the cerebellum in childhood and the glioblastoma multiforme occurring in the cerebrum of adults, have a very rapid course. More benign types of glioma and meningiomas progress slowly over a period of years. Another deceiving fact about some intracranial tumors is that

*Read before a meeting of the Southeastern Division of the Association, Wetumpka, October 13, 1938.

From the Department of Neurology, Emory University School of Medicine.

1. Peers, J. H.: Occurrence of Tumors of Central Nervous System in Routine Autopsies, *Am. J. Path.* 12: 911 (Nov.) 1936.

2. Walshe, F. M. R.: Intracranial Tumors; Critical Review, *Quart. J. Med.* 24: 587 (July) 1931.

3. Helmholtz, H. F.: Malignant Neoplasms in Childhood, *Proc. Staff Meet. Mayo Clinic* 6: 721 (Dec.) 1931.

partial remissions may occur.⁴ This is especially confusing in the differentiation between a neoplasm and a vascular lesion, such as a thrombosis. For example, an improvement in paralysis may occur for a time and this does not exclude a diagnosis of tumor.

The diagnosis depends on a careful neurologic history, a complete neurologic examination, aided by roentgen ray studies, spinal fluid examination and, finally, if indicated, by ventricular air studies. Recently a new and important addition has been made to our methods of diagnosis, by electroencephalography. With this method, one is able to study waves of electrical change in the cerebral cortex, and in regions overlying a tumor abnormal waves of slow frequency have been found. These have proven to be of localizing value in studies so far reported.⁵

In the classical descriptions of the symptoms of brain tumor, these are divided into general pressure symptoms and focal symptoms. This is somewhat misleading, since in fully 20 per cent of cases general pressure symptoms are completely absent. Of much greater importance, especially for early diagnosis, is the occurrence of signs and symptoms indicating a focal lesion of the brain, which is progressive in course. It is only other surgical lesions, such as abscess, hematoma or aneurism which produce a similar syndrome. These general pressure symptoms which are often absent, and not necessary for the diagnosis of an intracranial tumor, include headache, dizziness, vomiting, visual disturbance, convulsions and mental disturbances.

SIGNS AND SYMPTOMS OF INCREASED INTRACRANIAL PRESSURE

Headache is the most common of pressure symptoms and may be the sole symptom for a long time. While frequently bitemporal in pituitary tumors and suboccipital in cerebellar cases, there is usually nothing characteristic as concerns either its type or location. It is often periodic, suggesting migraine. It may be absent for long periods. It is frequently most severe in the early

morning hours and is often aggravated by coughing or sneezing. In tumors of the third ventricle, sudden severe headache may be produced by various movements of the head, being relieved when the position is changed. The headache may also be of such a character as to suggest hysteria, as in a patient who described his pain like a string tied around his head, or others who described it like a partition through one side of his head. In some cases it is extremely severe and resistant to treatment. Dizziness may be associated with the headache.

Vomiting is less frequent than headache. In cases of tumor of the cerebellar region and fourth ventricle, however, it may be the predominant symptom, especially in childhood. Projectile type of vomiting occurs in only about 10 per cent of cases. The vomiting may be periodic, or persistent. Cases are occasionally seen where vomiting has led to marked emaciation, and abdominal operations have sometimes been performed before a correct diagnosis is reached. Vomiting may be accompanied by abdominal pain. That such pain may be an important symptom of brain lesions has recently been emphasized by Wechsler.⁶

Visual symptoms except for double vision due to sixth nerve weakness usually are not due to general pressure but constitute valuable localizing signs. Unfortunately papilledema or choked disc, the most valuable sign of increased intracranial pressure, may exist for months without any subjective visual disturbance. Consequently this important sign can be discovered only by use of the ophthalmoscope. When present, there are few conditions other than tumor to be differentiated. When optic atrophy finally begins as a result of long continued choking, the patient complains of failing vision. Double vision due to a sixth nerve lesion producing weakness of the external rectus muscle is a common pressure symptom. As with headache and vomiting, it occurs early with tumors of the posterior fossa.

Generalized convulsions are frequent in tumors of the cerebral hemispheres, and may occur as the only symptom for many years. Patients with recurring convulsions, especially beginning after 25 years of age, should be studied by every available means,

4. Strauss, I.: The Initial Symptoms and Early Diagnosis of Tumor of the Brain, *Bull. New York Acad. Med.* 12: 467 (Aug.) 1936.

5. Case, T. J. and Bucy, P. C.: Localization of Cerebral Lesions by Electroencephalography, *J. Neurophysiol.* 1: 245 (May) 1938.

6. Wechsler, I. S.: Abdominal Pain as a Symptom of Disease of the Brain, *J. A. M. A.* 105: 647 (Aug. 31) 1935.

including ventriculography or encephalography, and electroencephalography if available, to exclude a neoplasm. In a review of 467 cases of convulsions, a cerebral tumor was present in 49, and the most common cause in cases of attacks beginning after 25 years.⁷ While convulsions may occur without focal signs, careful inquiry should always be made for these. Hallucinations of vision, hearing, taste or smell, and localized sensations of numbness and tingling preceding seizures are indications of the site of origin of the attack. Also the original site of convulsive movements, if recurrent, is important in localization. Localized paralyses following attacks have a similar value. In a review of 109 cases with such focal seizures, a cerebral tumor was found present in 24 and suspected in eight.⁷

Mental disturbances as an early symptom usually indicate tumor of the frontal or temporal lobes, but in late cases with highly increased intracranial pressure some disturbance of consciousness, as stupor or coma, may occur without localizing significance.

FOCAL SIGNS AND SYMPTOMS

Focal signs and symptoms are of the greatest importance. When these indicate a lesion which is localized and progressive in course, with or without general pressure symptoms, a conclusion may be drawn that the lesion is neoplastic. Confirmation may then be made by accessory methods of diagnosis. I shall briefly consider the most common localizations.

With tumors of the frontal lobe, mental disorders are usually the first symptoms. These include changes in personality, leading to peculiar behavior and loss of memory, especially for recent events. There may be a tendency to foolish joking. A marked apathy and loss of interest in the environment is especially characteristic. If located in the dominant hemisphere, there may be speech difficulty (motor aphasia). Finally there develop motor phenomena on the opposite side of the body. A weakness of the opposite side of the mouth in smiling is the most common, but progressive hemiparesis may develop. Convulsive seizures of focal or general type are common. In some cases there is an ataxic gait.

Tumors of the central region are most

commonly productive of convulsive attacks, usually with localizing features. In tumor of the premotor cortex the attacks usually begin with so-called "adversive movements" consisting of turning of the head, eyes, and sometimes the trunk to the opposite side. With tumors of the precentral cortex, the attacks usually begin with jerking of the foot, hand, mouth, or tongue according to the center involved. Tumors posterior to the central sulcus produce attacks which often begin with sensory aura in the form of localized paresthesias. In addition to attacks some degree of motor paralysis on the opposite side is usually present, with exaggerated tendon reflexes, diminished or lost abdominal reflexes and pathologic plantar reflexes. Premotor lesions produce a disturbance in skilled movements of the opposite hand as one of the earliest signs. Forced grasping, in which the hand tightly grasps the object on striking the palm, may also be present. When the parietal lobe is involved, contralateral sensory changes are present, especially disturbance of sense of position, localization, two-point discrimination and stereognosis. With posterior parietal lobe lesions on the left side there may develop a syndrome of finger-agnosia, in which the patient is unable to name the fingers of either hand. If the lesion is on the right side, he may lose awareness of the left half of the body, and even deny a hemiplegia when present.⁸ With lesions about the angular gyrus on the dominant side, there may develop a visual aphasia, in which the patient is unable to recognize letters and numbers, so that he cannot read.

Temporal lobe tumors may produce a variety of syndromes. Generalized convulsive seizures may be the only symptom for many years. More important, however, are so-called "uncinate attacks." In these the convulsions are preceded by hallucinations of smell and taste. In other cases instead of convulsions, the patient has so-called "dreamy states" where things appear strange, the patient feels as if the identical situation had been experienced previously or relives a previous experience. Involvement of the visual radiation produces blind-

7. Smith, W. A.: Management of the Epilepsies, J. M. A. Alabama 1: 137 (Oct.) 1931.

8. Nielsen, J. M.: Gerstmann Syndrome: Finger Agnosia, Agraphia, Confusion of Right and Left and Acalculia. Comparison of This Syndrome with Disturbance of Body Scheme Resulting from Lesions of the Right Side of the Brain, Arch. Neurol. and Psychiat. 39: 536 (Mar.) 1938.

ness in the opposite visual field and this is a valuable localizing sign. This usually begins in the upper quadrants. Visual hallucinations may also occur, and when present are usually complex visions of persons or situations. Mental symptoms very similar to those of frontal lobe involvement are common. With tumors of the dominant side, an auditory aphasia may develop. There is difficulty in understanding and jargon speech, or the difficulty may be limited to inability to name objects. Contralateral motor disorders, as hemiparesis, may also occur.

Tumors of the occipital lobes also produce hemianopia or half-blindness. Visual hallucinations may occur, and are usually of simple type, such as colors or flashes of light. Symptoms of parietal or temporal lobe involvement may be added.

Tumors of the cerebellum and posterior fossa produce early and marked pressure symptoms. In addition there is usually a staggering in gait and incoordination in use of the upper extremities. Nystagmus is frequent. Hypotonia on the side of the tumor is usually present, as well as awkwardness in performing alternate movements. With tumors of the hemispheres the motor disorders are usually present on the same side as the growth, and the patient tends to fall to that side. Tumors of the vermis affect chiefly the trunk muscles, and lead to the most marked gait disorders.

Tumors at the base of the skull form an important group and are localized chiefly by involvement of adjacent cranial nerves. In the anterior fossa, there occur involvement of the first two cranial nerves leading to unilateral or bilateral loss of smell, in addition to optic nerve involvement. This leads to marked visual disturbance with a central or paracentral scotoma and later progressive optic atrophy on the side of the tumor. As the growth reaches the region of the optic chiasm, a field defect will develop in the opposite eye.

With tumors about the optic chiasm, visual field defects are again the chief diagnostic signs, and consist of bitemporal defects with or without central scotomata according to the position of the tumor. Optic atrophy is progressive. If the growth be a pituitary adenoma or tumor of Rathke's pouch, symptoms of pituitary dysfunction will occur. If the growth invades the third ventricle, in-

ternal hydrocephalus and marked pressure signs will be added.

In the middle fossa, tumors at the base tend to involve a portion of the trigeminal nerve, and the oculomotor nerves as well as the optic. Unilateral exophthalmus may be present. Pressure on the optic nerve produces unilateral visual field defects which may later become bilateral, with homolateral optic atrophy. Involvement of the oculomotor nerves produces various types of ocular palsy. Involvement of the trigeminal produces severe neuralgic pains and anesthesia in the distribution of the involved roots.

In the posterior fossa, the lower cranial nerves are involved. Most characteristic is the acoustic neurinoma, which produces a characteristic syndrome of unilateral tinnitus, followed by deafness, often facial palsy, occasionally trifacial pain and later cerebellar symptoms.

At times most all of the cranial nerves on one side are involved by a basilar neoplasm. This is especially characteristic of certain malignant tumors arising in the nasopharynx. In some cases, the tumor spreads through the foramen magnum pressing on the upper cervical cord and produces symptoms of cord involvement.

Tumors of the lateral ventricles do not give characteristic symptoms; their signs and symptoms are those of the adjacent lobes and they are localized by ventricular air studies. Tumors of the third ventricle may produce paroxysmal headache and blindness on certain positions of the head, relieved with change of position. Other diagnostic signs occurring from involvement of neighboring centers include glycosuria, polyuria, obesity, somnolence, hypothermia, unexplained fever and sexual disturbances. Sudden attacks may occur with flushing or pallor, sweating and marked disturbances in pulse and respiration. Another striking manifestation may be acute ulcerations with hemorrhages from the stomach and intestinal tract.

Tumors in the region of the pineal body produce marked pressure symptoms with ocular disturbances, consisting of pupillary changes and especially an inability to rotate the eyeballs upward. Precocious sexual development may be present or absent.

ROENTGEN RAY FINDINGS

The roentgen ray examination of the skull may give entirely normal findings. Important changes consist of localized calcifica-

tion, localized destruction of bone, localized hyperostosis or increased vascular markings. Generalized convolitional atrophy and atrophy of the posterior clinoid processes are common signs of increased intracranial pressure. A shift of the pineal gland to one side can sometimes be seen, when the gland is calcified. Localized bone destruction is of most value (1) in tumors of the pituitary gland, where the floor of the sella turcica is eroded and the clinoid processes destroyed, (2) in tumors of the eighth nerve, where a notching of the petrous portion of the temporal bone is produced, along with enlargement of the internal acoustic meatus, and (3) in tumors of the optic nerve where the optic foramen is enlarged. Multiple areas of bone destruction may occur in various types of malignant growths. Calcification may occur in meningiomas and different type of glioma, and especially in a suprasellar cyst or craniopharyngioma. Localized thickening of bone and increased vascularity are both practically always indications of an underlying meningioma.

Roentgen ray findings following injection of air are most valuable in accurately localizing a tumor and also indicating its size, as shown by changes in the size, shape and position of the ventricles. Such examination should always be made where there is any doubt of localization, and in many cases is the only method of excluding a tumor. It is rare that a tumor is present with normal air studies. If there are no signs or symptoms of increased intracranial pressure, air may be injected by means of spinal puncture (encephalography). Where a choked disc and other symptoms of general pressure are present, this should be done by ventricular tap (ventriculography). In some clinics, roentgen ray study of the cerebral vessels following injection of opaque material has been helpful, showing displacement of the vessels, but this method has had little use in this country.

SPINAL FLUID

The spinal fluid in intracranial tumors shows frequent changes, but these are not of a specific character. The pressure is often extremely high, but may be normal. Where there are marked signs of increased intracranial pressure, it is unwise to perform spinal puncture because of the danger of herniation through the foramen magnum which may be fatal. The fluid will often

show a slight yellowish tinge. The cell count is usually normal, but may be increased up to several hundred and even thousands, the cells being mononuclear in type. This occurs particularly in tumors near the surface with softening or thrombosis. Such cases are occasionally treated as meningitis before the diagnosis is determined. An increase in protein content is common, and often extremely high. An abnormal colloidal curve, especially the paretic type, is also common. In every large series of intracranial tumor a few cases are found with a positive Wassermann reaction in the spinal fluid. This test cannot always be relied upon, and in fact the two diseases may co-exist. Careful consideration of all aspects of such a case must be made to reach a correct diagnosis, and air studies or surgery should not be too long delayed by antiluetic treatment. The so-called Ayala index has been found useful in cases of increased intracranial pressure in differentiating external hydrocephalus and an expending lesion." This index is calculated by comparing the initial pressure with the pressure following removal of 10 cc. of fluid. Final pressure divided by the initial pressure and multiplied by ten equals the index. An index of 1 to 5 usually means an expending lesion, and an index over 6 usually means an external hydrocephalus or "serous meningitis."

DIFFERENTIAL DIAGNOSIS

In the differential diagnosis of intracranial tumor, every disease involving the cranial contents may have to be considered. Cerebral abscess is usually suspected when there is a history of a preceding wound or infection, especially about the head. In the typical case, the early symptoms are quite severe and indicative of an infection. Chronic subdural hematoma may be suspected when there is a history of preceding injury, often of trivial nature. Positive differentiation may be impossible before trephining. The more important problem is the differentiation of the surgical and nonsurgical case, and this may require every available means of examination.

Probably the most difficult problem is the differentiation between a neoplasm and a vascular lesion in elderly people. In both, symptoms may develop suddenly and partial

9. Savitsky, N.: The Ayala Index, Arch. Neurol. and Psychiat. 39: 988 (May) 1938.

remissions may occur; there may be few or no symptoms of general pressure. The presence of retinal or generalized arteriosclerosis is of no help in diagnosis. The occurrence of any type of convulsive seizure almost always indicates neoplasm. Close observation for a period of time, and consideration of all factors are necessary; at times ventricular air studies alone give the answer to the problem.

Syphilis, and especially paresis, may be confusing but this should not be a common problem. Gumma of the brain producing focal symptoms and general pressure is too rare to require consideration. Other forms of syphilis should be differentiated by the neurologic signs, with not too much reliance on serologic tests. Cases of syphilis, with marked increased intracranial pressure due to meningeal adhesions, producing internal hydrocephalus often require surgical treatment.

Other diseases of the cranial contents may have to be considered in diagnosis, but time does not permit a detailed analysis of these.

SUMMARY

The signs and symptoms of intracranial tumors have been briefly reviewed. Only by continued alertness and thorough examination, utilizing all available means, can these frequent lesions be recognized.

Strauss⁴ recently expressed this by stating that "the diagnosis of a cerebral neoplasm depends even today upon the Art of Medicine, assisted by whatever laboratory procedures are available."

Rabies—Specific recommendations for the control and elimination of rabies in dogs are as follows: 1. The dissemination of knowledge of the disease to the general public. 2. The impounding of all stray and ownerless dogs. 3. The registration or licensing of all dogs whose owners regard them of sufficient value to continue the responsibility of ownership. 4. Compulsory antirabic vaccination of all dogs before a license is issued or registration permitted. 5. Enforcement of a strict quarantine to prevent the movement of dogs from one state to another without a qualifying health certificate attesting the animal's health and previous antirabic vaccination, such a certificate to be issued only in the event that there has been no case of rabies in the immediate vicinity for a previous period of six months. 6. Restriction of all dogs to their owners' premises unless they are on a leash. Strict adherence to these regulatory measures throughout the United States for a period of ninety days would in all probability eliminate rabies.—*Feldman, Virginia M. Monthly, January, 1939.*

THE DIAGNOSIS AND TREATMENT OF PLEURAL EFFUSIONS*

By
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The term pleural effusions refers specifically to an inflammatory response of the pleura, with the formation of purulent or non-purulent exudate in the pleural sac. In a majority of cases this is secondary to some preexisting pulmonary condition. There are very few instances of disease of the lung, either acute or chronic, in which the pleura is not secondarily involved. Probably, and naturally, one of the commonest diagnostic errors is the overlooking of small and beginning pleural effusions.

Time does not permit an elaborate discussion of diagnosis in this paper. There are, however, three procedures which I wish to stress particularly: (1) the invaluable aid which an x-ray film of the chest gives, not only in diagnosis but as a guide to the proper treatment of that particular case; (2) the aspiration of pleural effusions as the next most important step, in that it establishes the diagnosis and serves as the initial move in treatment; and (3) the immediate laboratory examination of the aspirated material in an effort to determine the causative organism.

It seems unnecessary to stress the necessity of a chest film in most lung diseases but it is true, nevertheless, that we still neglect the x-ray in a sizable proportion of cases, especially where the symptoms are slight and transitory. I hope to see the day when every hospital admission gets a routine x-ray of the chest, along with the present urinalysis, Wassermann and blood count. It is admitted this is an extraordinary suggestion, yet I honestly believe it will save most of us some chagrin and, at the same time, reveal many unsuspected chest lesions.

The only indisputable way of diagnosing pleural effusions is by aspiration. The fluid obtained is then examined by usual laboratory methods, such as smears, typing, culture, guinea pig inoculation, etc., in an effort to determine the causative organism. Closed aspiration is also the first used method of treatment in every case. If further operative procedures, such as rib resection,

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become necessary, then aspiration should immediately precede the operation, serving as an accurate guide to a slightly more serious procedure.

Pleural effusions fall naturally into three main classes, depending on the color of the fluid: first, clear or slightly cloudy, straw-colored fluids; secondly, hemorrhagic or bloody fluids; and third, purulent fluids.

The common serous, straw-colored pleural effusion that most of us see many times every year is due to tuberculosis in the vast majority of cases and should be so considered and treated until it is definitely proved otherwise. It is very often the first evidence of tuberculosis and many times precedes definite pulmonary tuberculosis by several years. A large percentage of these simple effusion cases break down with clinical pulmonary tuberculosis, usually within five years. Burrell states that 40 per cent of cases with effusion go on to clinical tuberculosis. I believe 50 per cent would be more nearly correct. The argument is frequently used that many individuals who have had pleurisy with effusion have never developed clinical tuberculosis. Of this there is no doubt. On the other hand, many more such patients actually do have tuberculosis or subsequently develop it. These observations emphasize the necessity of keeping a patient under careful observation for at least five years after the effusion has disappeared.

My main interest in giving this paper is to discuss particularly pleural effusions from the standpoint of tuberculosis and artificial pneumothorax. Many known cases of pulmonary tuberculosis go along their uneventful treatment of bed rest and then suddenly alarm both doctor and patient by having high fever, nausea, vomiting, anorexia, etc. This is often blamed on a flare-up of the tuberculosis, and with the symptoms soon subsiding the incident is forgot. That it is due to tuberculosis is true, but very often it is in the nature of a pleural effusion, which, if recognized in time and converted into a pneumothorax, may prove life saving. Once a pleural effusion is absorbed and the pleural space obliterated it can rarely be established again.

It is slowly being recognized that surgical lung collapse in the treatment of pulmonary tuberculosis is of equal, if not greater, importance than bed rest. Artificial pneumothorax takes first place in these proce-

dures and with it comes its chief complication of pleurisy with effusion. The effusion often develops without any symptoms at all. At least 50 to 75 per cent of pneumothorax cases develop an effusion. The doctor who fluoroscopes his pneumothorax cases as frequently as he should will find about 75 to 80 per cent complicated by effusion, with only a relatively small number of these requiring aspiration. The doctor who fluoroscopes infrequently will find this complication in only about 20 to 40 per cent of his cases. Every pneumothorax patient that suddenly develops nausea, vomiting, anorexia, high fever, etc., should be strongly suspected of developing a pleural effusion on the collapsed side. It is worthy of note that many pneumothorax cases seem to be benefited by the formation of pleural fluid. They seem to make surer, more definite strides towards recovery after the acute stage of the effusion has passed.

An unusual case of simultaneous bilateral pleural effusion was recently shown at the medical clinic of the Hillman Hospital in which one side contained ordinary, clear, straw-colored effusion while the other side contained a dark brown fluid which proved to be almost saturated with cholesterol crystals. Several other cases of cholesterol-containing pleural fluids have been reported in the literature and are explained as due to long standing cases of serous effusion which has been largely absorbed.

The treatment of serous pleural effusion is closed aspiration as often as necessary. The frequency of aspiration is usually determined by its pressure effects on the cardiac and respiratory systems. I believe that aspiration should be done more frequently and before the fluid volume and weight are allowed to cause cyanosis and dyspnea. Rib resection and open drainage, or so-called closed-tube drainage, are absolutely contraindicated and should never be done. I favor Alexander's method of handling cases. He advocates removal of the fluid by aspiration and the instillation of air, thus converting the condition into one of pneumothorax with fluid. This is followed by an x-ray of the chest. Often-times the fluid masks and hides a dangerously diseased tuberculous lung. My usual procedure is to remove most of the fluid at the first aspiration and replace it with 300 to 500 cc. of air. Then I take a film of the chest immediately afterwards. This

does two things: (1) the fluid withdrawal allows most of the lung to be clearly seen; and (2) the air levels off the fluid so that even more of the lung can be visualized. Then, if tuberculosis is present and collapse therapy is indicated, the lung can be continued under pneumothorax treatment, or, if it is clear and normal, the lung is allowed to reexpand without any harm being done. Dr. Alexander tells of one patient who was discharged from a sanatorium as having a simple pleural effusion six months before her death with cavernous tuberculosis on the side of the effusion. Excellent results were obtained, however, in another patient whose cavernous lesions were unmasked by converting the effusion into a pneumothorax.

Another group of men believe it is best to aspirate for symptomatic relief and diagnosis chiefly; and allow no air to enter the pleural sac so as to hasten the apposition of the pleural surfaces and thus eliminate the danger of tuberculous empyema from tubercles on the surface of the pleura. Personally I favor Dr. Alexander's advice.

Hemorrhagic pleural effusions are an infrequent occurrence and are often an accidental finding. Occasionally their presence may be suspected where an individual is known to be cancerous. Practically all pleural effusions contain varying amounts of red blood cells but in most instances the number is too small to cause any alteration in the color of the effusion. Tuberculosis is the most frequent cause of bloody pleural effusions, since, as stated before, the majority of non-purulent effusions are of tuberculous origin. However, most effusions which contain enough red blood cells to be called bloody on inspection are usually due to malignant disease, generally secondary to some nearby or distant primary focus. Another characteristic of effusions due to malignancy is that the hemorrhagic fluid tends to rapid and persistent reaccumulation.

The treatment of hemorrhagic effusions is closed drainage as often as necessary to keep the patient comfortable. After tuberculosis is ruled out and diagnosis of malignancy is established, I believe that rib resection, with tube drainage, or closed drainage without admitting air, in an effort to obliterate the pleural space, would render the remaining days of these patients more comfortable.

The third group of pleural effusions is the purulent pus-forming group which we

call empyema. The effusion may begin frankly purulent or start as a serous fluid and soon change into frank pus. Careful laboratory examination of the aspirated material, in order to determine the causative organism, is especially important in this group since the plan of treatment hinges entirely on the findings. The most frequent cause of empyema is the pneumococcus which forms from 1/3 to 1/2 of the cases. The streptococci rank next in importance, forming about 1/4 of the cases. Empyema is also a fairly common complication of tuberculosis, especially with the increased use of pneumothorax. So-called sterile empyema is nearly always of tuberculous origin and should be so considered and treated until definite evidence proves it otherwise.

The treatment of non-tuberculous empyema has been well worked out; and I believe that Dr. J. M. Mason speaks for the majority of doctors, especially surgeons, when he emphasizes rib resection and open-tube drainage as soon as the acute stage of pus formation has become stabilized. His plan of treatment is briefly as follows: "Aspiration is performed and is repeated as often as indicated in order to decompress the lung, to ascertain the character of the effusion, to determine the infecting organism and to make certain that the patient is not subjected to operation until the proper stage has been reached. Also following aspiration the patient is observed frequently to see if any curative tendencies can be detected." At the proper time rib resection with drainage by tube is done under local anesthesia. I agree with him thoroughly, except that I try to avoid rib resection as much as possible by using the intercostal trocar-cannula-tube method of getting open drainage.

Closed, frequent aspiration of non-tuberculous empyema alone often results in cures without any other procedures.

Pure tuberculous empyema, and also so-called sterile empyema, is a treatment horse of an entirely different color and woe unto the doctor who does not act accordingly—and even greater woe unto the patient. Pure tuberculous empyema should never be treated by either open-tube drainage or, that misnomer, closed-tube drainage. The treatment is closed aspiration as often as necessary.

Tuberculous empyema with mixed infection, however, requires open drainage with

an eye to a probable necessary thoracoplasty later on.

Antiseptic irrigations and instillations have been tried in all types of pleural effusions but the reports are so variable from numerous observers that any enthusiasm for this type of treatment is difficult to evaluate properly. Sulphanilamide and azochloramid are two fairly recent additions to this group.

In this discussion of pleural effusions I have purposely omitted the other obvious and essential parts of treatment, such as bed rest, relief of pain, nutritious diet, etc. This also has been done in omitting physical diagnosis, symptoms and clinical findings, since these essentials are done in every case. The time-worn axiom of medicine, that every case is an individual problem and a law unto itself, is especially true in diseases of the chest.

SUMMARY

1. An x-ray of the chest of every hospital admission as a routine measure is suggested.
2. Closed aspiration of pleural effusions is necessary for diagnosis and is the first plan of treatment in all pleural effusions.
3. Tuberculous or straw-colored or sterile effusions; or pure tuberculous and sterile empyemas are always treated by closed aspiration with the conversion of the effusion or empyema into a therapeutic pneumothorax, if the underlying lung pathology justifies it.
4. Rib resection with open drainage at the proper stage is the procedure of choice in non-tuberculous empyema and gives the lowest mortality rate.

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DISCUSSION

Dr. Cabot Lull (Birmingham)—Doctor Joseph, as he told you, has been able in the brief paper on a very big topic to outline the subject and refer only to the more outstanding features both in diagnosis and treatment.

Recognizing no such disease, per se, as pleurisy with effusion or primary pleurisy, he has very properly stressed the difficulty in diagnosing small effusions, either associated or unassociated with demonstrable pulmonary disease. Physical signs are merely suggestive, x-ray corroborative, but exploratory puncture, when done successfully, is confirmative.

The history pointing to pneumonia, influenza, tuberculosis, heart disease, infarction or neoplasm is sometimes most helpful, but in the end getting the fluid out for bacteriologic examination and cytologic study may determine both diagnosis and treatment.

The laboratory must often distinguish between transudates and exudates, it must tell as to the presence of cancer cells, and recognize the type of bacteria when present, though the latter often necessitates animal inoculation.

The attitude toward treatment of pleural effusions has changed greatly with the passing years. One great step in advance has been the realization that effusions in the pleura are merely part of the disease picture and their treatment depends on the primary disease. Doctor Joseph advocates the recent method of removing even serous fluids so as to study by x-ray the underlying lung for disease, frequently tuberculosis, neoplasm or infarction. Such removal of massive effusion also enables the compression of the lung, if such be indicated, by pneumothorax. This prevents extensive adhesions and fibrosis formerly noted in cases of long standing tuberculous disease. There can be no argument about drainage in empyema, the only question being time and technic.

In the management of all such conditions there should always be close cooperation among physician, surgeon, roentgenologist and laboratory worker.

The Deaf—There is no procedure done by the otologist which gives greater relief or which may be a more dismal failure than simple inflation of the eustachian tube. Vapors of many drugs have been tried for their beneficial effects, but today the majority of otologists prefer simple filtered air followed by benzedrine. No person should be allowed to inflate an ear until he has first experienced having his own tube blown out, for after experiencing the procedure, he will appreciate the value of a thorough cocaineization and the aid of a well timed swallow. It is my practice to inspect with a nasopharyngoscope, the orifice and to insert the catheter by sight. Knowing that the catheter is in place, one can be sure that the tube is either open or blocked, when the air is expelled into the tube. At one time, the dilatation of the tube with various bougies was extensively practiced, but today their passage is limited to diagnosis. Direct galvanic current through the tube is of questionable value.—*Shea, Texas State J. Med., January 1939.*

SOME CLINICAL OBSERVATIONS IN ASTHMATIC CASES*

WITH METHODS OF MANAGEMENT

By

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During the past several years I personally have had reason to be interested in a study of allergic reactions, the term including asthma, hay-fever, urticaria, eczema and angioneuro-edema. The experience does not give me cause to claim any new discovery, since what I am about to discuss has been reported previously, in whole or in part, by others. I do hope, however, to bring out several observations made in my own cases; emphasize the necessity of complete laboratory examinations in all instances; and discuss the methods of management that have proved most satisfactory to me.

It is not my intention to deal with etiology, diagnosis, pathology and differential diagnosis. Instead, I wish to report four representative cases that have been under observation for from one to five years, two of the patients being present at this time. I shall report these two cases first.

CASE REPORTS

Case No. 1—Mr. T. W. T., aged 43, a pharmacist, came to me on September 23, 1937 complaining of periodic attacks of difficult breathing, frequent headaches, insomnia, a constant and heavy discharge from the nose, perforated nasal septum, occasional attacks of diarrhea, frequent pains in the chest and head colds; and cold hands and feet constantly.

Present Illness: For the past five or six years the patient has suffered with severe attacks of difficult breathing, principally at night and in damp weather. These attacks come on every night but get better during the day. For a long time, 3/8 gr. of ephedrine would afford temporary relief, but of late 3/4 gr. has been required for even partial relief, and this is not constant. Has had frequent attacks of headache lasting from 1/2 to one day at a time for the past 5 or 6 years, more frequent during the past year. Has suffered from insomnia for some time but worse for the past several months since taking ephedrine in larger doses. Sleeps only 4 or 5 hours a night. Has had a heavy discharge from the nose for the past ten years, requiring almost constant mopping or "sniffing." Nasal septum has been perforated for a number of years. Patient has had intermittent attacks of diarrhea for several years which usually check fairly quickly with diet and

some of the common diarrhea mixtures. Has several attacks of pain in and around the chest each year. He has been told this pain was both pleurisy and neuritis. The pain usually involves the left back about the level of the 5th dorsal vertebra and extends to the left shoulder, and, occasionally, down the left arm. Has had frequent head colds for the past several years, more frequent for the last two. Cold vaccines do little or no good. Has had cold hands and feet for the past ten years. He is very nervous and irritable.

Physical Examination: Height 67 inches; weight 141 pounds. Blood pressure 105/80; pulse 84; temperature 97.6. The nasal septum was perforated, pharynx red and congested, the right ear drum dull and the canal dry and scaly. There were many moist rales over the entire chest; otherwise negative.

Laboratory Examination: Red blood cells 4,336,000; white blood cells 8,800—polymorphonuclears 64%, small lymphocytes 35%, basophiles 1%; hemoglobin 91%. Negative for malaria.

Fasting blood sugar 70.0 mgms. per 100 cc.; one hour after 100 gms. of glucose, 99.0 mgms.; two hours after, 60.0 mgms. Blood non-protein nitrogen 33.3 mgms. per 100 cc. Blood calcium 8 mgms. per 100 cc.

Gastric analysis—Total acidity 6; free hydrochloric zero; combined 6; mucus 3 plus; occult blood negative.

Basal metabolism, minus 20.

Urinalysis negative.

Wassermann and Kahn negative.

Diagnosis: (1) Allergic asthma; (2) chronic rhinitis; (3) perforated nasal septum; (4) achlorhydria gastrica with chronic gastritis; (5) hypotension; (6) chronic otitis media (right); (7) hypocalcemia; and (8) hypothyroidism.

I have seen this case on numerous occasions during an acute asthmatic attack. Usually he was relieved promptly by the injection of 7-10 minims of adrenalin. I had occasion to be with him in January 1933 when he suddenly developed an acute attack of asthma while in contact with dust. Dust was known to be the precipitating factor on many other occasions. The attacks were not seasonal.

Treatment: (1) Dilute hydrochloric, 1 dram in a glass of sweet milk, three times daily with meals. (2) A specially made tablet containing thyroid extract, gr. 1/2, parathyroid extract, gr. 1/10, and calcium lactate, grs. 5—1 tablet, three times daily before meals. (3) A hyperinsulinism diet devised by Dr. Seale Harris, Sr., consisting of frequent feedings of fruit or fruit juices, and the avoidance of polysaccharides.

Comment: This patient was promptly relieved of his attacks after beginning the treatment outlined, and there has not been a return of the asthmatic symptoms to date. However, if he leaves off his tablets for more than 3 or 4 weeks at a time there is a return of symptoms in a much milder form, but he is relieved quickly by getting back on the treatment. The diet does not seem to be necessary after 3 or 4 weeks of treatment.

*Read before a meeting of the Northeastern Division of the Association, Anniston, September 22, 1938.

From the Guntersville Clinic.

Case No. 2—Mr. V. M. S., aged 43, a farmer, came to me on November 30, 1936 with frequent and severe attacks of asthma as his chief com-

plaint. The attacks, which are not seasonal, began at the age of ten and last from one day to several weeks. At the time I first saw him, at his home on November 11, 1936, he was in a critical condition. His pulse rate was 150, he was extremely cyanotic, and stated that he had been unable to lie down for eight weeks. At this time palliative treatment was given, after he had been made comfortable with $\frac{1}{2}$ gr. of morphine. He was instructed to come to my office for a complete examination as soon as possible, and this he did on November 30, with the following result:

Physical Examination: Height 69 inches; weight 170 $\frac{1}{2}$ pounds. Blood pressure 105/80, pulse 70. There were numerous fine crackling rales over the entire chest, particularly on expiration. There was a moderate degree of pyorrhea present. Otherwise the examination was negative.

Laboratory Examination: Red blood cells 4,544,000; white blood cells 10,400—polymorphonuclears 65%, small lymphocytes 29%, eosinophiles 5%, basophiles 1%, hemoglobin 90%. Negative for malaria.

Stool: Grayish-black in color; mucus 1 plus; occult blood 3 plus; positive for round worm ova.

Glucose tolerance test: Fasting, 106.4 mgms. per 100 cc.; one hour after glucose, 148.7 mgms.; 2 hours after, 100.0; 3 hours after, 70.0. At the end of 3 hours, the patient was becoming dyspneic and the test was not carried further. Blood non-protein nitrogen 28.5 mgms. per 100 cc.; blood calcium 8.0 mgms. per 100 cc.

Urinalysis negative.

Basal metabolism, minus 1%.

Wassermann and Kahn negative.

Diagnosis: (1) Allergic asthma; (2) round worms; (3) pyorrhea; (4) dysinsulinism, probably of pituitary origin; and (5) low blood calcium.

Treatment: (1) Thyroid-parathyroid and calcium tablets (as described in Case No. 1) one, three times daily before meals; (2) tablets of anterior pituitary extract, 2 $\frac{1}{2}$ grs., one, three times daily before meals; (3) Frequent feedings of the low carbohydrate diet previously described; (4) vermifuge.

Comment: This patient had suffered with frequent, severe attacks of asthma for a period of 33 years. He had taken many kinds of treatment from physicians, and had used different patented medicines without relief. Since beginning the treatment outlined, he has not lost a day from work, and has not had any attacks of asthma.

Case No. 3—Mrs. C. W. S., Birmingham, aged 28, came to me on November 4, 1937 with asthma as her chief complaint. She had her first attack at the age of 15 (approximately) and has had frequent attacks since, being worse in the fall of the year. She has averaged 2 injections of adrenalin (5 minims each) every night for several months. Seeking relief, she had visited Florida, Texas and California but without effect.

Family History: Father had asthma from childhood, and died with cardiac asthma at age 62.

Physical Examination: Height 64 $\frac{3}{4}$ inches; weight 141 pounds. Blood pressure 105/75; pulse 80; temperature 97°F. The teeth showed areas of decalcification and numerous dark spots. The cervix was red, congested and eroded; and there

was a profuse muco-purulent discharge from it. Otherwise the examination was negative.

Laboratory Examination: Red blood cells 4,750,000; white blood cells 8000—polymorphonuclears 52%, small lymphocytes 48%; hemoglobin 86%. Negative for malaria.

Stomach and stool analyses normal.

Glucose tolerance test: Fasting, 80.6 mgms. per 100 cc.; one hour after glucose, 103.6; 2 hours, 119.0; 3 hours, 95.7; 4 hours, 70.0. Blood non-protein nitrogen, 27.3 mgms. and blood calcium 9.0 mgms. per 100 cc.

Urine normal.

Basal metabolism, minus 18.2%.

Wassermann and Kahn negative.

Diagnosis: (1) Allergic asthma; (2) hyperinsulinism (thyroid origin); (3) minimum normal blood calcium; (4) hypothyroidism; and (5) endocervicitis and cervical erosion.

Treatment: (1) Radical cauterization of the cervix; (2) thyroid-parathyroid and calcium tablets (as described) one, three times daily before meals; (3) tablets of anterior pituitary extract, 2 $\frac{1}{2}$ grs., one, three times daily before meals; and (4) frequent feedings of the low carbohydrate diet as described.

Comment: This patient was free of the asthma in 36 hours after beginning treatment. She remains free of attacks now on the thyroid-parathyroid and calcium mixture alone. She states she has had only one attack of asthma since beginning treatment, and this was on a trip when she had left her medicine at home.

Case No. 4—T. K., aged 3. It is not deemed necessary to go into much detail on this case since very little laboratory work was done, or could be done, and the treatment was purely experimental. I saw the patient in 1935 during an acute attack of asthma. Relief was obtained with 3 minims of adrenalin. The patient had had asthma from infancy; also a diffuse eczema which covered the entire lower extremities, lower trunk, arms and neck. The attacks of asthma were frequent, severe, and not seasonal. He had been under treatment for both the asthma and eczema since infancy and without improvement.

Treatment: (1) Thyroid extract, gr. 1/10; parathyroid extract, gr. 1/20; calcium lactate, gr. 5, one powder, three times daily before meals; and (2) low carbohydrate diet as outlined.

Comments: The eczema cleared up rapidly and has not recurred. The asthmatic attacks were relieved entirely for several months but recurred in a milder form and less frequently after diet and treatment were discontinued. The child is now in school and much harder to manage. I saw him a week ago in my office and was told by the mother that he had been "wheezing" considerably for the past several days but had not had an acute attack. The same treatment was recommended, except that the thyroid was increased to 1/8 gr. I understand that he is now free of his symptoms again.

SUMMARY

In my series of cases, the number has not been sufficient to permit of definite con-

clusions. Only twelve cases have had complete laboratory study. However, all these have shown either low, or low normal, blood calcium (9.0 mgms. per 100 cc. or less). All have shown a high sugar tolerance, and often a marked hypoglycemia. Eleven of the twelve cases studied have shown a basal metabolic rate of minus 10 per cent or below. I have never had a diabetic or case of hyperthyroidism with asthmatic symptoms.

DISCUSSION

From the study of my cases of asthma, I have come to the conclusion that, while an endocrine imbalance is responsible for a large majority of them—in fact, all of mine—it is not necessarily the exciting factor. Pollens, foreign protein, bacteria, etc., may precipitate an attack that would not have occurred in the presence of normal endocrine function. We are all aware that dysfunction of one gland in the endocrine system may disrupt the whole chain. Since there are few cases of asthma that are not promptly relieved by the injection of adrenalin, we would naturally suspect the glands in the system more likely at fault to be those that exert a stimulating effect on the adrenals. We now know that the anterior pituitary has a stimulating effect on the adrenals and have been aware of the influence of the thyroid for some time. We also know the effects these glands have on glycemia, and that there is definite muscle spasm produced in hypoglycemia.

Calcium has the ability to raise the threshold of pain and allay smooth muscle spasm. Its use intravenously to relieve the spasm of biliary colic, lead poisoning, ureteral colic, etc., is well known. Therefore, it is reasonable to assume that patients subject to smooth muscle spasm of any character should be amply supplied with calcium and its utilization provided for.

CONCLUSION

In this small series of cases my findings have indicated a hypo-function of the anterior pituitary, thyroid, and parathyroid glands, singularly or in combination. The treatment has been directed entirely toward the stimulation of those glands believed to be the most at fault, and no doubt secondary stimulation of the adrenals has been accomplished. The results of the treatment have been 100 per cent satisfactory so far.

Retrodisplacement—One of the most frequent abdominal surgical procedures in young women is some attack upon a retroverted uterus, which I am sure is performed without sufficient evidence that relief will be obtained since the uterus is often blamed for troubles with which it has little to do. It must be remembered that the uterus may be in a retroverted position in 30 to 40 per cent of unmarried young women, but it is not adherent in the position. The explanation of this condition is found in the faulty attachment of the pelvic fascia to the uterus, above the uterine artery. There is nothing to prevent the uterus from moving back and forth so it is just as normal in one position for a time as it is in any other position.

The faulty development in the pelvic fascia is somewhat peculiar to the nervously exhausted or psychoneurotic type of patient whose abdominal organs are generally ptosed. The menses are frequently irregular as a heritage from glandular dysfunction and there is dysmenorrhea of the primary type. The physical condition of these young women is easily influenced by their social and economic status; they are unable to be on their feet long periods at a time or to be employed in positions that require considerable nervous energy. Since the majority of them have pelvic discomfort and perhaps irregular menses, the generative organs are accused of producing the entire syndrome. Surgical correction of this type of retroversion invariably fails to accomplish the desired result.

Fixed retroversion from any cause is an entirely different condition and its surgical correction is usually indicated. The most frequent type is that which occurs after pelvic inflammatory disease, either specific or non-specific, and the next most frequent type probably is that caused by endometrial implants. The surgical problem involved is usually more than the correction of the retroversion. Other pathologic conditions must be dealt with in such a manner as to conserve both the menstrual and reproductive functions and so as not to interfere with subsequent pregnancies.

An intra-abdominal operation for the correction of retrodisplacement is one of the most frequently performed gynecologic operations in both the nulliparous and multiparous women; it often is performed without sufficient indication. If the patient is a multiparous woman and the retrodisplacement is uncomplicated, I seriously doubt whether one ever is justified in performing an intra-abdominal operation for simple correction of the position of the uterus and certainly there is still less justification to do a combined vaginal plastic repair and an internal shortening of the round ligaments. The explanation is that the correction of the position of the uterus can be more safely and permanently accomplished by the vaginal route in connection with a repair of the cystocele and the pelvic floor. This requires a complete knowledge of the pelvic fascia and its normal attachments to the uterus, cervix and bladder.—*Counsellor, New Orleans M. & S. J., January 1939.*

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ALABAMA'S MEDICAL PRACTICE ACT

Alabama is the only state in the Union which has seen fit to utilise, by law, the resources and trained talent of its medical profession in two important fields; namely, that of administering public health activities and of regulating and controlling medical licensure for all those who propose to engage in the healing art. In this latter field the law says: "The Board of Censors of the Medical Association of the State of Alabama, as constituted under the law now in force, or which hereafter may be in force, is constituted a State Board of Medical Examiners and is charged with the duties and clothed with the powers hereinafter prescribed."

In 1877—62 years ago—by an act of the General Assembly of Alabama this latter responsibility was placed upon this body. The law, as it now stands, clearly and specifically sets forth that any one proposing to treat diseases of human beings by any system of treatment whatsoever shall procure a certificate of qualification through this authorized legal source, such certificate to be based upon examination, in writing, in certain basic and necessary branches of medical learning. The subjects covered embrace those things about which any one who proposes to deal with the human body in health or in disease should have some knowledge.

The law, as written, does not require that an applicant be examined in materia medica or therapeutics; it is concerned not in the type of treatment to be administered but rather in seeing that any one administering any treatment whatsoever shall first have knowledge of the basic fundamental branches upon which all sound treatment should rest. Once this has been shown, the applicant is free to employ such type of treatment as he may elect. Furthermore, while the law does exact rigid educational qualifications from those of the regular medical school, such educational requirements are specifically waived in the case of all applicants not of this school. Any applicant from another school, such as osteopathy, chiropractic, or any other school of the so-called mechanotherapy group, is now entirely free and has a perfect right to appear before this duly constituted licensing board and to prove his fitness in these basic subjects. Each applicant taking the written examination is assigned a number and the one grading the paper has not the remotest concept of whose paper is being reviewed. Should the applicant attain a general average of seventy-five on all subjects examined upon, he is issued a certificate which entitles him to treat diseases of human beings in Alabama according to the methods which he proposes to practice, but does not entitle him to prescribe or administer drugs nor to practice major surgery.

Throughout the years these high standards have been upheld in Alabama and largely because of the fidelity of those administering the medical practice act and because of the confidence of the people and of the succeeding legislatures in the ability of those entrusted with the administering of the act to do so fairly and impartially.

Human life is too sacred and too valuable for any law-making body not to appreciate the fact that it is most important for the citizens of any state to be protected from the dangers and ravages of illy or inadequately trained persons who might seek to prey upon the lives, credulity or ignorance of the public.

Should, therefore, any particular group importune our law-making body, advocating changes in the present medical practice act, which seem unwise to those to whom its enforcement has been entrusted, every licensed practitioner of the healing art within

the State should consider it a privilege to do his part to society by upholding high and decent standards for the protection of the health of our people. Once the whole picture is presented in its true light to the legislature it is felt that this body may be relied upon to act wisely and sanely for the protection of all.

TREATMENT OF BARBITURATE INTOXICATION

"As a chemical means of self-destruction, the barbiturates lead the list, and with increasing lay knowledge of the rapid hypnotic effects of the shorter acting barbiturates they can be expected to rival barbital and phenobarbital as the method of choice for those who seek permanent oblivion. Physicians must be alert to the signs of intoxication, particularly the recognition of barbiturate poisoning." These are the opening lines of the report of Bleckwenn and Masten¹ in which they discuss picrotoxin as an antidote for barbiturate poisoning. The authors cite various experimental efforts to prove the antidotal value of picrotoxin and then report their series of six cases of barbiturate intoxication so treated with only one death.

The authors tell us that "while administering the emergency treatment one should give picrotoxin in a 1:1,000 solution at the rate of 1 cc. per minute, watching the pupils and taking the corneal reflex at intervals. The first notable effect of picrotoxin will be an increase in the depth of respiration and a rise in the blood pressure. The pulse rate often improves in quality and becomes slower."

And "effective treatment of barbiturate poisoning emphasizes the following procedure: (a) gastric lavage and purgation; (b) continuous oxygen; (c) the administration of picrotoxin intravenously until the return of pupillary and corneal reflexes; (d) diuresis by parenteral fluids and intravenous sucrose; and (e) the administering of dextrose to prevent acidosis." The investigators consider their method to be both convenient and safe and state that "the drug (picrotoxin) is known to protect animals against chloral hydrate and to revive animals in deep coma from paraldehyde and sodium bro-

mide." It is not yet known whether picrotoxin will prove to be useful in poisoning due to the longer acting barbiturates.

The Madison investigators have stated their case well and their method of treating barbiturate intoxication certainly appears to hold great promise, though so far only a very small number of cases has been reported. It is to be hoped their splendid results can be confirmed both by themselves and other observers upon a larger scale. The whole question of the barbiturates—the prescribing by the profession, the over-the-counter sale to the laity and the excessive and injudicious use of these preparations—has long been a difficult matter to handle and probably will be for some time to come. Many physicians and writers on health topics have endeavored to warn the public of the dangers inherent in the use of these drugs and some laws regulating their sale have been passed, but little or no good has been accomplished. The barbiturates continue to be taken in enormous quantities and certainly every practitioner who has been confronted with a cyanotic victim of barbiturate intoxication will welcome any effective antidote which will aid in reviving his patient before it is too late.

Committee Contributions

Maternal and Infant Welfare

STILLBIRTHS

Stillbirths and neonatal deaths, those dying within the first month after birth, constitute one of the larger groups of deaths in Alabama. Together these two groups account for approximately 1/6 of all the deaths in Alabama. In 1937 there were 2,725 stillbirths and 2,388 neonatal deaths. Many of the neonatal deaths were due to prematurity which in turn were doubtless due to lack of adequate antenatal supervision and to ignorance or lack of adequate care of the premature infant. To quote from Curtis' *Obstetrics and Gynecology*: "Analysis of a large series of stillborn infants discloses the disturbing fact that the great majority are due to accidents of labor and therefore largely preventable, or to maternal diseases during pregnancy, also in a large measure avoidable before delivery."

Holland and Lane-Clayson found in their series the causes as follows:

1. Bleckwenn, W. J., and Masten, Mabel G.: Barbiturate Intoxication (Report of Treatment with Picrotoxin in Six Cases), J. A. M. A. 111: 504 (Aug. 6) 1938.

Complications of labor	35.5%
Antepartum hemorrhage	18.8
Toxemias of pregnancy	11.1
Syphilis	8.7
Maternal states	2.5
Placental states	1.2
Fetal states	10.5
Prematurity	3.6
Causes unknown	8.1

Adair found in a similar series approximately the same percentages. To quote Curtis: "From an analysis of these figures it would seem that half or thereabouts of all fetal deaths are the result of faulty obstetrics, while another one-fourth are due to curable diseases of the mother leaving but one-fourth as unpreventable." These may seem harsh words but when we consider that no child need die of syphilis or have the disease if the mother has had adequate treatment from the fifth month of pregnancy; that only an occasional woman will have toxemia of pregnancy if she has had adequate antepartum supervision, which means that she understands and does as she is instructed; that most antepartum hemorrhages will give an early warning if the physician and patient are alert; and that aside from the accidents of pregnancy many of the complications of pregnancy may be foreseen and given adequate treatment. When we consider these things, then the truth strikes us forcibly. If we might apply the remedy, all pregnant women under adequate antepartum supervision which would include antileptic treatment for all syphilitic expectant mothers and adequate delivery care, then we might conservatively say that 5,000 or 6,000 babies might be born alive.

Once before your Committee has called attention to the indiscriminate use of pituitrin before delivery of the baby. Again we would like to call to your attention the dangers of pituitrin when given before the birth of the baby—dangers to the mother and dangers to the baby. Intracranial hemorrhage is a frequent accompaniment of precipitous deliveries as well as long labors and instrumental deliveries.

The new year of 1939 is ahead of us. Let us add to our list of things we wish to accomplish this salvaging of needless deaths.

Prevention of Cancer

THE AMERICAN BOARD OF RADIOLOGY

The American Board of Radiology was organized in 1934 by a committee made up

of representatives of Radiological Societies and Section of the American Medical Association. In 1935 the American Board of Radiology was accepted for membership in the advisory board for medical specialties. The purpose of the Board is:

First: To encourage the study and promote and regulate the practice of radiology.

Second: To elevate the standards and advance the cause of radiology by encouraging its study and improving its practice.

Third: To determine the competence of specialists in radiology; to arrange, control, and conduct investigations and examinations; and to test the qualifications of voluntary candidates for certificates to be issued by the Board.

Fourth: To serve the public, physicians, hospitals, and medical schools by preparing lists of practitioners who shall have been certified by the Board.

GENERAL REQUIREMENTS

A. General Qualifications.

(1) Satisfactory moral and ethical standing in the profession.

(2) A license to practice medicine.

(3) Membership in the American Medical Association, or, by courtesy, membership in such Canadian or other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals of the American Medical Association.

(4) That the applicant holds himself out to be a specialist in radiology or one of its branches as defined under definitions, and that he uses roentgen rays or roentgen rays and radium either personally or under his direct supervision in a substantial portion of his practice.

B. Professional Education.

(1) Graduation from a medical school of the United States or Canada, recognized by the Council on Medical Education and Hospitals of the American Medical Association.

(2) Completion of an internship of not less than one year in a hospital approved by the same Council.

(3) Three years' training in radiology or sufficient experience in lieu thereof.

C. Special Training—(To be effective January 1, 1940).

(1) A period of study after the internship of not less than three calendar years in an institution or radiologic department recog-

nized by the same Council and the Board as competent to provide a satisfactory training in the field of radiology.

(2) This period of specialized preparation shall include:

(a) Graduate training in pathologic anatomy, radiophysics, and radiobiology.

(b) An active experience of not less than twenty-four months in a radiologic department recognized by the Board and the Council as capable of providing satisfactory training.

(c) Examination in the basic sciences of radiology as well as in the clinical aspects thereof. The fee is \$35.00.

At the present time, examinations are practical and oral but written examinations may be added later.

"The examination consists of tests in film interpretation and an oral examination in pathology, physiology, radiophysics and radiobiology, as well as the clinical applications of roentgen rays and radium. The applicant is also examined in 'professional adaptability,' in an attempt to ascertain his attitude toward his fellow practitioners and his patients.

"Final Action of the Board—The final ac-

tion of the Board is based on the applicant's professional record, training, and attainments in the field of radiology, as well as on the results of his examination. Any radiologist who is practicing radiology honorably and efficiently should have no difficulty in obtaining a certificate. This Board has been organized, not to prevent qualified radiologists from obtaining certificates, but to assist them in becoming recognized in their communities as men competent to practice in the special field of radiology."

The Committee on the Control of Cancer takes this opportunity to present the purpose and general requirements of the American Board of Radiology. In view of the fact that the requirements may become stricter within the next two or three years, it would seem advisable that those physicians in Alabama who can meet the requirements should avail themselves of the opportunity to become diplomates of this Board. While only seven Alabama physicians are listed in the 1937 catalogue of the Board, there are many more who are qualified to become diplomates. The Committee feels that all qualified physicians should seriously contemplate identifying themselves with the American Board of Radiology.

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

DECEMBER 1938

Examination for diphtheria bacilli and Vincent's	1,315
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	316
Typhoid cultures (blood, feces, urine)	848
Examinations for malaria	1,019
Examinations for intestinal parasites	5,254
Serologic tests for syphilis (blood and spinal fluid)	12,713
Darkfield examinations	25
Examinations for gonococci	1,255
Examinations for tubercle bacilli	1,074
Examinations for Negri bodies (microscopic)	80
Water examinations (bacteriologic)	581
Milk examinations	1,707
Pneumococcus typing	61
Miscellaneous	3,099
Total specimens	29,347

THE THERAPY OF TAPEWORM INFESTATION

Of the numerous medicaments of plant origin that have been prescribed at one time or another for the elimination of tapeworms from man, the drug derived from male fern enjoys the greatest popularity. Few physicians hesitate to use it and it is mostly recommended in textbooks on therapeutics. Faust¹ states that "the most reliable drug for all tapeworm infections is probably oleoresin of aspidium."

Treatment with male fern calls for caution however, is time-consuming, and the results obtained are highly erratic; even when the patient is hospitalized. Not infrequently patients suffer severe toxic sequelae, such as headache, vertigo, dyspnea and cyanosis, and when absorbed the drug damages the

1. Faust, E. C.: The Pharmacopeia and the Physician; the Use of Anthelmintics, J. A. M. A., 1937, 108:386.

kidneys. Its effect on the central nervous system leads to optic disturbances, delirium and stupor.

Fatalities following the administration of male fern are by no means unknown and conditions in which the drug is contraindicated include pregnancy, infancy and old age, anemia, and debility due to acute infection or chronic disease.

Pelletierine is another product of vegetable origin that has been widely used in tapeworm treatment; it is a mixture of alkaloids extracted from the bark of the pomegranate. Its effectiveness depends to a large extent on proper preparation of the patient; that is, on restriction of diet for a day or two and on vigorous purging before and after treatment.

Pelletierine is most often resorted to after failure with male fern; and, besides being extremely disagreeable to take, often produces nausea, vomiting, and, in large doses, cerebral symptoms.

Statistics are not available that would permit evaluation of male fern and pelletierine as teniacides but certainly they do not begin to approach any one of several anthelmintics introduced in recent years for the treatment of other helminth infestations.

Sandground² has recently reviewed the results obtained with three of the newer drugs proposed for the treatment of tapeworm infestations; namely, carbon tetrachloride, tetrachlorethylene and hexylresorcinol. Of these, carbon tetrachloride appears by far to be the best and his experience bears out recently expressed opinions that it is "the most effective remedy for the treatment of tapeworm infestations in man."

Daubney and Carman³ first directed attention to the value of carbon tetrachloride as a specific against the tapeworms of man. These workers were treating hookworm patients in East Africa with a mixture of carbon tetrachloride and oil of chenopodium and it was frequently noticed that tapeworms were passed. A series of patients were, therefore, treated with 4 cc. of carbon tetrachloride alone and a therapeutic efficiency of 97 per cent obtained.

2. Sandground, J. H.: Newer Drugs for the Treatment of Tapeworm Infestations, *New Eng. J. Med.*, 1938, 215: 298.

3. Daubney, R., and Carman, J. A.: Helminthic Infestations of Natives in the Kenya Highlands, *Parasitology*, 1928, 20: 185.

Subsequently Carman⁴ continued his studies on the treatment of tapeworm infestations of Kenya Colony and recorded comparably favorable results in 2,500 to 3,000 natives given a mixture of 4 cc. of carbon tetrachloride and 1 cc. of oil of chenopodium. These treatments were given on an outpatient basis without a single instance of untoward symptoms. Other equally satisfactory reports confirming the efficacy of carbon tetrachloride as a teniacide have been published by Kemp⁵ and Hoffman.⁶

Not only has carbon tetrachloride a good record as a specific for tapeworms but it has a remarkable record of safety as well. Yet it is far from innocuous; to some extent it is always absorbed and damage to the liver parenchyma follows, even in the absence of clinical symptoms. For this reason an effective saline purge should be given with or immediately following the anthelmintic. Likewise, alcohol and fats should be foregone for at least a day before and after treatment while chronic or acute cirrhosis and kidney disease are contraindications. For young children Lambert⁷ prescribes 0.2 cc. for each year of age.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

COMMUNICABLE DISEASES DURING 1938

The number of cases of communicable disease reported in Alabama in 1938 as compared to the number reported in 1937 and the median incidence of the nine years, 1929-1937, is given in the following tabulation:

	1938	1937	Median 1929-37
Typhoid fever	403	317	678
Typhus	341	478	271
Malaria	6,006	4,590	4,734
Smallpox	75	48	82
Measles	13,791	601	2,989
Scarlet fever	859	658	1,211

4. Carman, J. A.: A Note on the Clinical Aspect of the Treatment of Teniasis with Carbon Tetrachloride, *Tr. Roy. Soc. Trop. Med.*, 1931, 25: 187.

5. Kemp, A. H.: Intestinal Parasites: a Suggestion in the Method of Treatment, *J. A. M. A.*, 1931, 96: 1948.

6. Hoffman, W. A.: Intestinal Parasitocides, *Porto Rico J. Pub. Health and Trop. Med.*, 1931, 7: 51.

7. Lambert, S. M.: Hookworm Disease in the South Pacific; Ten Years of Tetrachlorides, *J. A. M. A.*, 1933, 100: 247.

	1938	1937	Median 1929-37
Whooping cough	1,872	1,694	1,565
Diphtheria	1,096	965	1,579
Influenza	5,149	17,167	14,535
Mumps	909	1,496	1,074
Poliomyelitis	99	82	58
Chickenpox	1,657	1,370	1,370
Tuberculosis	2,784	3,021	3,325
Pellagra	585	270	623
Meningitis	238	338	83
Pneumonia	3,915	4,446	3,313
Syphilis	22,409	16,385	2,064
Chancroid	100	129	87
Gonorrhea	3,620	4,548	2,154
Tetanus	65	50	57
Trachoma	1	11	6
Ophthalmia	9	15	18
Undulant fever	59	48	43
Tularemia	9	17	10
Encephalitis	28	25	29

This annual comparison of figures reveals the progress that has been made in combating certain diseases while emphasizing anew the work still to be done. The three diseases against which the medical profession is best equipped with protective measures all showed increases over the preceding year, although still well below previous averages. These are typhoid fever, smallpox and diphtheria. Most of the smallpox cases occurred in one localized outbreak, while similarly more than 150 cases of diphtheria resulted from an epidemic in one of the northern counties. Measles which has periodic waves of high incidence was epidemic during the early months of the year and swept over the state.

Influenza and its running-mate, pneumonia, both showed recessions, as did tuberculosis, while many of the other reportable diseases showed minor fluctuations. Malaria was decidedly higher than in 1937 and meningitis, although below the previous year, was well above the median expectancy.

Indicative of the campaign against syphilis was the impressive total of cases reported during the year. These more than 22,000 cases do not represent new infections only, but also include old cases coming under treatment for the first time. These figures, however, give a graphic representation of the widespread problem in the state.

NEOARSPHENAMINE

Neoarsphenamine is a very unstable chemical compound. The powder in the ampoule should be freely mobile and a lemon yellow to a canary yellow in color. In making the

solution for injection 20 cc. of sterile distilled water may be used but the usual amount is 10 cc. The neoarsphenamine should be sprinkled or dusted, not dumped, on the water. If it is dumped on the water, a sticky, gelatinous mass forms and solution is much slower. The solution should not be agitated or aerated and should be used within 20 minutes after mixing. To aerate or agitate the solution increases its toxicity. If the distilled water is injected into the dry powder in the ampoule, marked aeration and agitation occur. Many avoidable reactions have been caused by this method of preparing the solution.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

SCHOOL LUNCHROOMS

What foods should the school child eat each day? This is a question asked by many parents in Alabama today. The responsibility for answering this question is rightfully placed upon the medical profession since the health of the child is dependent to a very great extent upon his diet. Nutrition is now being considered a public health problem in many states and Alabama is among those that sees the need of emphasizing nutrition from this standpoint. Nutrition of the school child is one phase of this important subject that is now receiving special attention in Alabama.

In many counties of the state the public health nurses and the county health officers are encouraging better food for school children through their cooperation with county educational officials in the promotion of school lunchrooms. Many school lunchrooms have been operating for several years, and since September of this year many new ones have been started. In some schools a complete noon-day meal is served at a minimum charge. In others there is one nutritious hot dish to supplement the lunch brought from home. In many of the rural schools the children are bringing to school various foods available at home, such as canned fruits and vegetables, milk, eggs, potatoes, fresh meat, etc., and these are made into a nutritious hot dish and served free of charge to all those who contributed. This seems a very satisfactory plan and makes it possible for more children to have a hot lunch than if the lunch-

room were operating on a pay basis. This spring and summer in many communities there will be an intensive gardening and canning program for the school lunchroom. It is reasonable to assume that, if these people in the rural sections can be encouraged to preserve fruits and vegetables for the school lunch, they will also have more and better gardens and then preserve these foods for use in the home. Thus the family food supply will be improved. Therefore, through the school lunchrooms not only will the nutrition of the school child be improved but the "carry over" into the home of planning more nutritious meals will be of equal importance.

In many counties the public health officials are planning their school examinations so that they may check up on the improvement in the health of the children who do have the advantage of a good, warm, nutritious hot lunch at school. Although no figures are available as yet to indicate the improvement in health of these children, it is reasonable to suppose that these figures will be evidence to help show the desirability of nutritious lunches.

In many counties the home demonstration

agent and the farm agent are working hand in hand with the other officials to help promote good lunches. During the gardening and canning seasons many of them are planning to work through their clubs the idea of planning and preserving foods for use in the lunchrooms. In some counties there are W. P. A. and N. Y. A. projects for school lunchrooms, and these special workers are detailed to work in the lunchrooms. In many counties use is being made of W. P. A. surplus commodities in the lunchrooms.

It is encouraging to see such enthusiasm on the part of many of the official organizations in the state and counties concerning the feeding of school children. Certainly this is a great step forward toward bringing about improved nutritional conditions in Alabama.

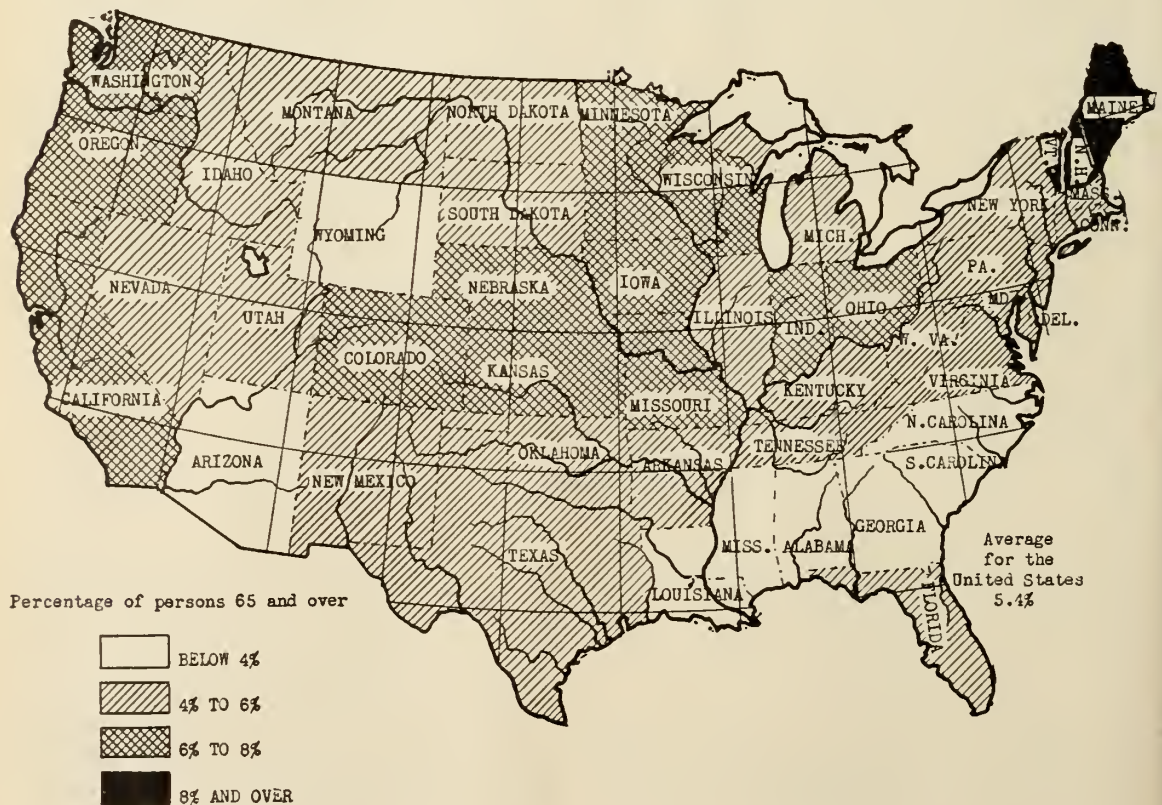
M. W. B.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

THE AGING OF THE POPULATION

Everyone knows that the population of the United States is growing older. Alabama, in comparison with the other states,



has a young age distribution, there being only four states with a lower percentage of the population in this group and two states with the same percentage. According to the 1930 census, 3.8 per cent of the people in Alabama are 65 years of age and over; the average for the United States as a whole is 5.4 persons per 100 population. From the same source, we find that 8.9 per cent of the population of New Hampshire is 65 years and over, while in South Carolina only 3.3 per cent of the people are in that age group.

With the increased percentage of persons in the older age groups has come a decreased percentage in the group under fifteen years of age. In Alabama, since 1880, this decrease has been most pronounced in the group under five, but during this period of time the decrease in that age group has not been as rapid as the increase in the group 65 and over. This holds true for white and colored, males and females.

For both males and females, the greatest increase in the proportion of people in the older age groups took place between the census years 1910 and 1920, while for the group under five the greatest decrease took place between 1880 and 1890. Between the years 1880 and 1930, the increase in the ratio of the group 65 and over and the decrease in the ratio of the group below five was greater for males than for females.

The estimated population of Alabama for 1938 shows an increase of one-tenth of one per cent in the group 65 and over since 1930. Correspondingly, the group under 5 shows a decrease of six-tenths of one per cent. Just how accurate this estimation is we do not know at the present time and it will be interesting to see what the 1940 census will show in regard to the aging of the population since 1930.

E. G.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

SANITATION IN ALABAMA

TEN YEARS OF ORGANIZED WORK

Upon the formation of county health departments in Alabama the problem of securing the safe disposal of human wastes for the control of hookworms, typhoid fever, and dysentery presented itself to the health workers. As early as 1920, and before, pit privies were built in some of the organized

counties in the state for this purpose. However, the work was not done systematically, but to these workers must go the credit for making a start in the right direction. The type of privy was at that time being continually changed to insure and secure better sanitation. Through the initiative on the part of health workers and a desire for a more permanent construction, the type evolved from wood to concrete slab and riser, and finally the concrete slab with cast iron riser or stool. Yet standardization was not being obtained. The work was done in a sporadic and haphazard manner. In this early sanitation work, which was of greatest value as an educational measure, the health workers were feeling their way in this great field.

Pit privies were widely adopted as a safe method of disposal of human wastes and found suitable for installation in almost every locality in the state. It was also realized that a standard type of privy and a unified program for the whole state were necessary to reach the desired goal.

With the rapid growth of county health work the need for coordination became more apparent. A systematic and uniform program which would coordinate the work and produce the maximum result in a minimum period of time had to be designed. In the beginning it was realized that the sanitation work must rest mainly with the county health departments and that, if any failed to assume leadership in the work, the state would not progress as it should, resulting in one major piece of health work not being accomplished.

Public health legislation of 1927 gave the State Board of Health the authority to make and adopt plans and specifications for the construction and maintenance of earth pit privies and other forms of sanitation. The act was approved September 9, 1927, as an amendment to Section 1134 of the Code of 1923.

Fortified with experience gained in the past, a study was made of the types and methods employed in several states. Many improvements were made in the design of the pit, slab, and cast iron riser, previously used in the state.

Notable among these improvements is the use of the cast iron riser, a product which has not before or since been used as standard in any other state. Liberal and flexible

minimum requirements were adopted on the manufacture of risers which have left the field open to all foundries or concerns wishing to enter. This item alone, which has been commercialized to the extent that a riser may be purchased in most any hardware store in Alabama, has operated to maintain the standard of construction with the minimum participation of health personnel in the installation of each and every structure.

Coupled with the riser was concrete construction, which gave both simplicity of construction and permanency. Without these items the sanitation program would have collapsed sooner or later. The health department would have become too deeply involved administratively. The responsibility for providing sanitation could not have been assumed by the proper authorities, thus leaving the avenue open for relieving the health workers of this problem.

Rules and regulations and plans and specifications, in reference to pit privies, having the force and effect of law were drawn up, approved and adopted by the State Board of Health, as provided for in Section 1134, on January 9, 1928.

After the model ordinance and other forms were prepared and an adequate organization built up, the program was set on its course early in 1928. As with all new movements, many difficulties were encountered. Economic, physical, political and legal difficulties were constantly present but were in a great measure overcome by patience, energy and determination.

The program during the ten years following 1927 has passed through three major phases or eras, each, during its development, pointing the way for future activity and providing a stepping stone by which the ultimate goal might be reached.

The first phase was that of law enforcement with an impetus given the work by the use of police power delegated to the health departments by municipal and county authorities. The purpose of this program was attained in the mass construction obtained and the resulting enlightenment of the public.

The economic depression which followed this era gave birth to a new approach to the problem. Existing health personnel cooperated with the relief agencies in formulating and executing sanitation projects.

Funds made available through the relief agencies to supplement the regular personnel enabled the Bureau of Sanitation to select and place in the field men as project supervisors with basic engineering training. With these men to choose regular personnel from, the beginning of a change in the quality of county sanitation officers was marked.

With the passage of the Kelly Act by the legislature in 1935, which gave the municipalities the authority to carry out a complete municipal sanitation program on a self-liquidating basis, another more comprehensive phase of the work was entered. Rather than attempt to delegate one of its powers—police power—to the health department, the municipality was armed with the authority to utilize all its powers to accomplish the job. The simplicity of the program is convincing, and the manner in which municipal authorities have realized and assumed their just responsibilities in regard to providing sanitation for all the people in towns has been gratifying.

Passing through these eras and overcoming many obstacles, health workers in Alabama accomplished during the ten years the installation of 72,230 standard pit privies, septic tanks, and sewer connections serving a population of approximately 400,000. At the beginning of the organized program it was estimated, from available records, that at least 627,641 of the state's population was and is served by connections to existing sewer systems. From these figures it is seen that at the close of 1937 a minimum of 40 per cent of the people had the advantage of facilities for the disposal of human wastes in an approved and sanitary manner.

During the eleventh year of organized sanitation work—1938—19,472 additional installations of approved pit privies, septic tanks, and sewer connections were completed serving 130,376 more people. The completion in 1938 of one-fourth the number of structures installed during the preceding ten years reflects credit upon the soundness of the program, the previous work, the educational programs, the leadership and energy of health workers, and the assumption, by municipal authorities, of delegated responsibilities in regard to sanitation.

Now, at the beginning of 1939, a minimum of 45 per cent of the people of Alabama is served by sanitation of the various types protecting the public health. When the pro-

tection given by school sanitation is considered, a much larger percentage is benefited. What will the picture be ten years hence? The work has gained momentum. The course is charted; but, in order to attain the ultimate goal, the delegated responsibilities which are justly placed upon the shoulders of all health workers must be realized and vigorously assumed by all state, municipal, and county authorities.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	1933		Estimated Expectancy Dec.
	Nov.	Dec.	
Typhoid	17	14	32
Typhus	25	39	18
Malaria	435	140	109
Smallpox	0	0	4
Measles	46	232	66
Scarlet fever	119	135	129
Whooping cough	143	199	97
Diphtheria	119	130	160
Influenza	212	532	411
Mumps	21	43	57
Poliomyelitis	2	10	3
Encephalitis	2	0	1
Chickenpox	93	158	143
Tetanus	6	2	3
Tuberculosis	158	176	225
Pellagra	25	14	13
Meningitis	11	14	6
Pneumonia	229	376	398
Syphilis	1537	1675	175
Chancroid	11	3	3
Gonorrhea	289	291	156
Ophthalmia neonatorum	0	0	2
Trachoma	0	0	0
Tularemia	1	0	0
Undulant fever	3	3	3
Dengue	0	0	0
Amebic dysentery	1	0	0
Rabies—Human cases	0	0	0
Positive animal heads ..	31	31

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The Thirty-Fifth Annual Congress on Medical Education and Licensure was held at the Palmer House, Chicago, February 13 and 14.

* * *

The Philadelphia Academy of Surgery an-

nounces that essays will be received in competition for the Samuel G. Gross prize of \$1,500.00 until January 1, 1940.

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d St., Philadelphia," on or before January 1, 1940.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

* * *

Application for admission to the Group A, May 1939, examinations of the American Board of Obstetrics and Gynecology must be on file in the Secretary's office not later than March 15, 1939.

The general oral, clinical and pathological examinations for all candidates, Part II examinations (Groups A and B), will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Notice of time and place of these examinations will be forwarded to all candidates well in advance of the examination dates.

Candidates for reexamination in Part II (Groups A and B) must request such examination by writing the Secretary's office before April 1, 1939. Candidates who are required to take reexaminations must do so before the expiration of three years from the date of their first examination.

The annual dinner meeting of the Board to which all Diplomates and candidates are invited, as well as their wives and others interested in the work of the Board, will be held at the Congress Hotel, St. Louis, on Wednesday evening, May 17, following the close of the examinations.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, (6) Pennsylvania.

* * *

Dr. Cecil D. Gaston announces the firm of Doctors Gaston and Williams, with offices in the Medical Arts Building, Birmingham, and practice limited to proctology.

* * *

On January 6th, 1939 a Gridiron Dinner was given for the Jefferson County Medical Society. A very congenial and entertaining evening was enjoyed by all. A brief history of the Jefferson County Medical Society with the introduction of the past living Presidents was presented by the Chairman, H. Earle Conwell, M. D. This was followed by a very entertaining program under the auspices of the Chairman, Dr. John W. Simpson. The attendance was exceptionally good, which was stimulated by the Finance Chairman, Dr. Stewart H. Welch and the Chairman of the Arrangements, Dr. Edward O'Connell.

* * *

The Southeastern Surgical Congress will hold its tenth annual assembly in Atlanta, March 6, 7 and 8. Speakers will include Doctors Irvin Abell, Walter Alvarez, Wayne Babcock, George W. Crile, Marye Y. Dabney, Morris Fishbein, W. D. Haggard, W. W. Harper, Arthur Hertzler, J. L. McGehee, Lloyd Noland, Fred Rankin, Hugh H. Trout and W. G. Ward.

The entire list of essayists includes some thirty-nine men, outstanding in their respective fields.

* * *

"Beaumont and St. Martin" is the first of six large paintings in oil memorializing "Pioneers of American Medicine" which artist Dean Cornwell will complete in the next few

years. Others in the series are Dr. Oliver Wendell Holmes, Dr. Ephraim McDowell, Dr. Crawford W. Long, Dr. William T. G. Morton, and Major Walter Reed, and one woman, Dorothea Lynde Dix, who, while not a physician, stimulated physicians to study insanity and feeble-mindedness.



Arrangements to supply physicians with free, full color reproductions of "Beaumont and St. Martin" without advertising, and suitable for framing, have been made with the owners, John Wyeth & Brother, 1118 Washington Street, Philadelphia.

* * *

The American Medical Association has a number of motion picture films for loan, among which are several on physical therapy. The borrower is expected to pay the expenses both ways and to be careful when running them. Dr. Thomas G. Hull, Director, Scientific Exhibit, American Medical Association, Chicago, has charge of the distribution and will supply complete information.

Book Abstracts and Reviews

Cancer—Its Diagnosis and Treatment. By Max Cutler, M. D., Associate in Surgery, Northwestern University Medical School; Chairman, Scientific Committee, Chicago Tumor Institute; Consultant, Tumor Clinic and Director, Cancer Research, United States Veterans Administration, Hines, Illinois; and Franz Buschke, M. D., Assistant Roentgenologist, Chicago Tumor Institute; Late Assistant, Roentgen Institute, University of Zurich. Assisted by Simeon T. Cantril, M. D., Director, Tumor Institute, Swedish Hospital, Seattle; Late Assistant, Chicago Tumor Institute. Cloth. 757 pages with 346 illustrations. Price, \$10.00. Philadelphia and London: W. B. Saunders Company, 1938.

Here is a new book on cancer, one that reflects the results of a careful study of a large group of cases and of a large amount of literature. After introductory chapters on radiation therapy, biopsy, mode of spread and a discussion of general

principles, the authors present chapters dealing with the various types of cancer—cancer of the skin, cancer of the lip, cancer of the tongue, salivary gland tumors, cancer of the esophagus, cancer of the stomach and intestines, cancer of the rectum, cancer of the biliary tract, cancer of the bladder and kidneys, cancer of the cervix and uterus, tumors of the breast, cancer of the lungs and bone tumors.

Early evidence of malignancy is presented in detail to encourage early diagnosis. Lesions that are likely to become malignant are described in detail. The direction of lymphatic spread and the localization of metastases are presented in order to make clear the reasons for special dissections or for x-rays of distant parts or for roentgen therapy of regional lymph nodes.

In presenting this large amount of valuable material, the authors have attempted to make accessible to the reader a critical evaluation of the pertinent facts relating to the diagnosis, prognosis and treatment of cancer. Available data are carefully weighed to determine which evidence seemed sound and which was unable to withstand critical analysis. The pages of the book were thus spared the mental exercises which the authors practiced before the galley proof went back to the shop.

The specialist will find of great value the comparisons of results of various types of treatment. The general practitioner will find of greatest value the descriptions and illustrations of early symptoms. This stressing of early symptoms seems to be the most important step in prevention of cancer deaths. It behooves the practitioner and internist to familiarize himself with these early symptoms and diagnostic features. The need for knowledge being obvious, the reader may be assured that all the answers (so far as our knowledge goes) are in this one book.

C. K. W.

Diseases of the Nose, Throat and Ear. By W. Wallace Morrison, M. D., Clinical Professor and Chief of Clinic, Department of Otolaryngology, New York Polyclinic Medical School and Hospital. Cloth. 675 pages with 334 illustrations. Price, \$5.50. Philadelphia and London: W. B. Saunders Company, 1938.

Morrison's "Diseases of the Nose, Throat and Ear" is a practical book, written for the general practitioner and the undergraduate medical student. It deals with anatomy and physiology of the nose, throat and ear only as they bear on diseases of the special organs. Etiology and pathology are dealt with in more detail. Methods of examination and steps in diagnosis are described and illustrated fully. Essentials in prognosis are given and preventive measures are discussed. As to treatment, the author has presented only those methods that have stood the test of time, leaving to the larger texts all discussion of new or untried methods. In describing surgical operations, the author satisfies himself with telling what is to be done, leaving to others the details of describing how it is to be done. Since the book is not intended for the specialist, this omission is not of serious import.

The book is helped considerably by the many illustrations done by the author himself. These

are drawn in clear, simple and accurate style, many being diagrams actually clearer than photographic reproductions. There is a convenient formulary of prescriptions used in treating diseases of the nose, throat and ears and a symptomatic index which is of great value to those interested in but not yet well trained in diseases of the nose, throat and ear.

B. S. H.

How to Conquer Constipation. By J. F. Montague, M. D., Medical Director, New York Intestinal Sanitarium; American Society for the Control of Cancer; Late of University and Bellevue Hospital Medical College; Fellow, American Medical Association; Fellow, New York Pathological Society; Sometime Fellow, New York Academy of Medicine and American College of Surgeons. Cloth. Pp. 244. Price, \$1.50. New York and Philadelphia: J. B. Lippincott Company, 1938.

When a doctor finishes reading this little book, he is likely to wonder if he has not spent too much time thinking and reading of tuberculosis, heart disease and cancer when the greatest scourge of all is being neglected. The patient who reads the book ought to become a hypochondriac whose every daily decision is influenced by its supposed effect on the bowels. Actually the author presents mostly commonsense statements but, like a long-winded lecture, there is too much of it. Between exploding popular fallacies and stressing sensible living, the author has written a book of no particular value to the doctor but one which should be popular with patients whose chief interest in life is the state of their bowels.

C. K. W.

Clinical Laboratory Methods and Diagnosis. By R. B. H. Gradwohl, M. D., Director of the Gradwohl Laboratories and Gradwohl School of Laboratory Technique. Second Edition, Cloth. Pp. 1,517, with 492 illustrations and 44 color plates. Price, \$12.50. St. Louis: The C. V. Mosby Company, 1938.

In 1915 Dr. Victor C. Vaughan made the assertion, in an editorial in the *Journal of Laboratory and Clinical Medicine*, that the doctor who practiced medicine without the aid of a laboratory belonged to a past generation. If this statement was true at that time it is doubly true today and it was with this thought in mind that the author first wrote this book. Admittedly, the attempt has been made to help the clinician, the laboratory worker and the medical student to learn laboratory diagnosis. That the effort of the author has met with success is indicated by the demand for the book which has necessitated publication of a revised edition only three years after the original printing.

In the second edition numerous errors appearing in the previous publication have been eliminated and methods now considered obsolete or impractical have been replaced with others of proved usefulness.

In the present edition the newer concepts of nephritis and nephrosis, an expanded and simplified chapter on blood chemistry, complete data on the theories of blood development, and a further elaboration of the Schilling theory are included.

The chapter on parasitology and tropical medicine has been revised by Prof. Kouri, Director of the Department of Parasitology of the Medical

School of the University of Havana, Cuba. Rear Admiral Charles S. Butler, of the Medical Corps, U. S. Navy, is responsible for the views expressed relative to yaws and Dr. Suarez of Puerto Rico contributed the discussion on sprue.

A new chapter on detection of crime by laboratory methods, based on the author's experience as Director of the Research Laboratory of the St. Louis Police Department, has been added.

A critical review of this encyclopedic volume is impossible but the occurrence of several rather important omissions may be noted. In the discussion of rabies no mention is made of Sellers' stain, one of the most commonly used, and there is likewise no reference to mice as animals of choice when microscopically negative brain material is to be injected.

In the discussion of methods for isolating typhoid bacilli no mention is made of desoxycholate plating media; and Wilson and Blair's sulphate glucose agar is recommended. This is a non-existent medium to begin with as the formula contains sulphite and not sulphate and it is also misnamed as it should be designated as bismuth sulphite agar.

In the methods proposed for the bacteriologic analysis of milk and water it seems odd that the standard methods of the American Public Health Association are not followed. At the same time it would seem that too much significance was attached to certain dubious procedures, as, for example, in the demonstration of inclusion bodies in measles.

The omission of certain well-tried technical methods, such as the Brewer, Fildes or Brown procedures for cultivation of anaerobic bacteria, is noticeable and methods less reliable are suggested.

Such criticism as the above is not intended to detract from the value of the book as a reference work but to indicate that in using the methods here proposed some comparison with the procedures recommended in other publications of the same general nature might profitably be made before a final choice is decided upon.

The book will be of daily use in a diagnostic laboratory but its purchase should be made with a clear understanding that many of the methods here presented will soon be replaced by newer and better technics. S. R. D.

The Man Takes a Wife—A Study of Man's Problems in and Through Marriage. By Ira S. Wile, M. S., M. D. Cloth. Price, \$2.50. Pp. 277. New York: Greenberg, Publisher.

The Man Takes a Wife carries the male of the species from "The Man Goes A-Courting" to "Growing Old" with all the vicissitudes, hardships, emotional stresses and strains and conflicts that arise from the mating and raising a family. Many of the points raised are well taken and show the author to have a keen insight into the problems in and out of marriage.

"As the wedding progresses the groom is an unornamental but necessary accessory but at its completion he is a husband, generally the titular head of the house, often master of all he surveys within the home." "The honeymoon values are not wholly genitalized. If women wish to work,

they should be allowed to do so and duties, etc., are discussed when the wife is a co-earner." "A man's will proclaims the extent to which he found gratification in monogamous marriage." "It may give testimony to years of sexual maladjustment for sexual adjustment partially determines a husband's willingness to give freely to their wives during life and at their death." These excerpts from "The Man Takes a Wife" reveal that the author has spent himself freely in thought concerning man and marriage.

As man emerges from the role of husband into that of father and husband the new relationships and adjustments are discussed freely. With the growing up of the children and the increasing age of the father, new relationship and problem angles arise that need to be considered and often adjusted, if the family circle is to be maintained.

The Man Takes a Wife is an interesting, well developed book. It is recommended as containing helpful information for both physician and layman. W. H. Y. S.

Drug Addicts Are Human Beings. By Henry Smith Williams, M. D., B. Sc., LL. D. Cloth. Pp. 273. Price, \$2.50. Washington, D. C.: Shaw Publishing Company, 1938.

Throughout his professional career, the average pharmacist or physician is haunted by the fear that he will get into serious trouble with the Federal Government because of some innocent violation of the Harrison Narcotic Act. Almost any moment he may be thrown into a state of anxiety and agony by the unheralded arrival of an official with authority to inspect his books and place him under arrest for failure to keep his records in perfect order. It is estimated that, in spite of the widespread unwillingness of thousands of physicians to take this risk and their consequent refusal to treat narcotic addicts at all, nearly 25,000 members of the great profession of healing have been reported for criminal violation of this act and that about one-fifth of these have been convicted in federal courts. It is not at all unusual to read in the newspapers that a prominent physician has been branded as a common criminal in this way. A case comes to mind of a county health officer in one of Alabama's neighbor states. Members of the community, many of whom he had aided personally in their struggle against disease and death, rallied to his cause and went en masse to the trial to testify in his behalf. Unless memory errs, this evidence of his integrity and standing among those who knew him best resulted in "leniency." Instead of being sent to Atlanta or Leavenworth, he was permitted to return to his family, his friends and his work upon payment of a heavy fine. At no time during the trial, as far as can be recalled, was there any indication that he had been guilty of any crime more serious than careless record-keeping. It seems that, in his eagerness to relieve sufferers, he had failed to account for all the narcotics dispensed. Yet for a while it looked as though he were about to receive the same treatment accorded burglars and thugs in civilized countries and racial minorities in Germany.

That is the aspect of the narcotic problem which Dr. Henry Smith Williams discusses at

considerable length in this new book. He makes out a good case.

It is not the Harrison Narcotic Act itself which is responsible for so much loss of sleep on the part of so many physicians and pharmacists, he insists, but what he considers the arbitrary interpretation of the measure by certain officials who appear to have much at stake, in a financial way, in the continuance of the present harshness of interpretation, administration and enforcement.

Dr. Williams' contention is that uncounted hundreds of thousands of dope addicts—he estimates them at half a million—must have their "shots" at frequent intervals, whether they became addicts deliberately and with their eyes wide open to the consequences of addiction or realized they were in the grip of a horrible habit—monster as a result of unwise administration of narcotics by their physicians during illness. Under the present interpretation and administration of the narcotic laws, those who have not been committed to certain institutions for addicts with criminal records, or at least criminal tendencies, cannot buy this all-important product without paying about 50 times its normal price and becoming automatically guilty of a felony. This, he contends, is extremely unfair and unjust. There is no more reason for a man who must have narcotics to have to become a criminal and pay racketeers profits up to 5,000 per cent than there is for a diabetes sufferer to have to buy insulin from underworld characters and pay \$50 for a dollar's worth. That is his argument, and there must be many who agree with him, especially after reading "Drug Addicts Are Human Beings." He makes much of the point that many miserable victims of the dope habit are that way as a result of their war services, having been initiated into the fraternity of "snow" takers innocently enough during and shortly after undergoing operations hastily performed on bodies and brains under war conditions.

"The Government in whose service they had become addicts now condemned them to permanent addiction," he wrote.

What is to be done for the incurables among the dope victims—one of the most heart-tearing groups in all suffering humanity? Read Dr. Williams' answer:

"In each case (dope addict, diabetic, or myxedema victim), it is merely a matter of finding out what dosage of drug is required to keep the system 'in balance,' and continuing to supply the need. To deny the addict the right to secure legally and at minimum cost the medicine he needs, is precisely as logical, as humane, and as just as to require a goiter subject to pay a dollar a tablet for thyroid extract, or the diabetic to pay one hundred times its valid price for insulin—with the added proviso that either sick person is to be pronounced a felon if he is caught purchasing the drug at all."

But what of the addict who is not incurable? In Dr. Williams' opinion, continued availability of the drug during the period of treatment is essential if there is to be a cure.

"In a word, each case is a law unto itself," he wrote. "But there is one rule that applies to ev-

ery case of addiction that has reached a chronic stage—the time element is the prime essential in considering treatment. Sudden 'cures' by abrupt stoppage or brief substitutions are not cures at all, and should never be so considered. The term of any curative treatment worthy of the name is a period of many months, not to say years. Every cell in the body is involved. The change is like the transfer of a marine creature to fresh water. Only by slow gradations can such a transfer be effected with safety or with hope of making the new environment livable."

The author continued:

"My own method of the elder day, and the only method that gives the slightest chance of success when the patient is not confined, is a method of slow withdrawal, over a term of many months, with substitution of non-narcotic stimulants (strychnine, caffeine, quinine) and props to the blood-forming mechanism (in recent times, non-specific proteins, chiefly of vegetable origin, called proteals)."

The general public is becoming much better informed in matters having to do with drug addiction, its medical as well as its non-medical phases. That is a good sign, and Dr. Williams deserves much credit for the skill with which he has pointed out the patent injustices in the enforcement of what was intended to be a helpful and humane law.

J. M. G.

Biography of the Unborn. By Margaret Shea Gilbert. Cloth. Pp. 132. Price, \$1.75. Baltimore: The Williams and Wilkins Company, 1938.

Biography of the Unborn is a study of the development of the human being, embryologically speaking, for the layman. While scientific terms are used, the author has kept the text quite simple. In spite of this simplicity, one should have some knowledge of biology to derive the most from its study. This *Biography*, while of interest for teachers and as a means of general review for physicians and nurses who are teaching non-medical groups, is most certainly too advanced for the average adolescent.

The author has divided the book into chapters corresponding to the months in utero. The general development of each month is discussed with the particular phase of the month in greater detail—as Fourth Month: The Quickening.

In the chapter on twins, variations, and malformations, the prevalent belief in "markings" and "maternal impressions" is argued pro and con. The author shows that there is no authentic medical evidence to support such a theory. The strongest arguments are the lack of nervous or other direct connection between mother and child; the occurrence of fright, shock, or desire—which frequently occurs after the first two months when the embryo's body is fairly well developed; and that the same variations, abnormalities, and monstrosities occur in most classes of lower animals, "although surely the maternal impressions of a turtle, for example, must be quite different from those of a human mother."

Biography of the Unborn will be of interest to all interested in the development of the human

race. It is especially recommended to teachers who are in a position to bring such information to lay groups. Though there may seem to be repetition in places, we must remember it was not written for a text-book of embryology but for the non-medical group, and we might learn a lesson from the author—when talking to such groups—to keep our language such that others less versed in scientific terms may grasp the fundamental facts.

E. F. D.

The Woman Asks the Doctor. By Emil Novak, M. D., F. A. C. S., Honorary D. Sc. (Dublin), Associate in Gynecology, Johns Hopkins Medical School; Former Vice-President American Gynecological Society. Illustrated by Carl Clarke. Cloth. Pp. 189. Price, \$1.50. Baltimore: The Williams and Wilkins Company, 1937.

This book, written by an eminent gynecologist who has had many years of experience, has already filled a need long felt by physicians and patients. Every subject discussed has been asked many times of the author or any other physician who has women patients. Even though they may be hesitant about asking, women need to know and want to know about the functions of their bodies.

The chapter on superstitions is interesting and instructive as the author gives sufficient evidence to explode them. Repeatedly does he show the necessity for the complete pelvic examination, if the cause of any, even a minor ailment, is to be properly treated. He decries the use of the douche as a cure-all.

The discussion of the physiology of menstruation and the relation of the glands to the female organs is in simple language, giving the woman the latest understanding of hormones. He stresses the difficulties of physicians in the cases of glandular deficiencies. To quote: "The diagnostic unraveling of such cases, and their proper treatment, often taxes the resources of the physician, owing to our still limited knowledge in this field, so that the woman familiar with the difficulties will be more charitable and indulgent toward her medical attendant than will the ignorant woman who may think that the doctor need only prescribe a magic pill of some sort to re-establish or regulate menstruation."

Many women will find much comfort as well as a newer understanding in the chapters on "Menopause" and "Sex Life of Women."

Again the author urges women to have examinations when any change from the normal occurs in her menstrual course, for "there is no way for the woman or for the doctor to know (whether cancer or some other cause) this unless the proper sort of examination is made." He does not believe that examinations every year or every six months, would prevent cancer, but feels that "it would accomplish much if carried out thoroughly and conscientiously."

Many physicians will find this book of great value to their women patients—a book which they can recommend unreservedly as the author has avoided the controversial subjects and stressed the simple fundamental facts which every woman should know.

E. F. D.

Doctor Bradley Remembers. By Francis Brett Young. Cloth. Pp. 522. Price, \$2.75. New York: Reynal & Hitchcock, 1938.

In the early evening of a recent Friday, October 31, Dr. John Bradley conducted his last "surgery," went through his usual routine of examining his patients and prescribing remedies for their ills, and, after the last one had departed for her home in England's famed Black Country, awaited the arrival of the young man who was to take over his practice the following morning. For Dr. Bradley had reached the age when he ought to retire and enjoy the leisure which he had richly earned and which the modest financial success he had achieved had made possible. The young man came. The two went over the details of the sale. The elder gave some suggestions which he hoped would make the other's work easier. The business of the evening attended to, Dr. Bradley's youthful successor departed. Alone at last, the aged physician unloosed his powers of memory, and the story of his life passed before his mind; hence the title, "Doctor Bradley Remembers."

And Doctor Bradley remembers for some 510 pages. He remembers his own unhappy boyhood, the tyranny he suffered at the hands of his father, his father's death while showing off his skill in handling undocile horses, his mother's remarriage to a man he detested and distrusted, and the couple's departure from the little English community and from his own life. He remembers his apprenticeship to a crabby old fake who called himself a doctor and built up a highly profitable practice with little more equipment than a skeleton which he had named Captain Kidd, a few antiquated textbooks and a calloused conscience. He remembers, as he sits there in his easy chair that last night before his retirement, his student days in medical school, marked by an enduring and wholesome friendship with Martin Lacey with whom he worked on his first cadaver. He remembers the failures and minor successes that marked his initial steps in the profession of medicine, his work as an assistant to a crabby old doctor who liked him very much as long as he merely did his work but flew into a frenzy when he spoke of marrying the old man's niece and striking out for himself, which he did. Doctor Bradley remembers, as this Friday evening drags on, the first real happiness of his life, which that marriage brought him, a marriage that also brought him a son, whom the delighted parents named Matthew. John Bradley's thoughts turn into painful channels as he remembers how suddenly all this happiness ended with Clara Bradley's death from a scarlet fever infection in childbirth, for which he himself, innocently enough, was responsible. From then on, he reflects, he knew little happiness. For Matthew did not turn out well. John wanted so much for him to follow in his own footsteps and become a doctor, and the lad made a start in that direction but got into bad company, failed in his examinations, and died, in spite of all the devoted father and the loyal Martin Lacey could do for him, of morphine poisoning from which he was suffering when John Bradley finally found him in a disreputable bedroom of a house of ill fame. In

the years that followed Matthew's death, Doctor Bradley remembers, he suffered many other misfortunes. An arrogant new industry had invaded the community where he had built up an excellent practice, with enough contract patients to meet his ordinary expenses and enough private ones to enable him to live in unaccustomed luxury and add substantially to his savings. This new business had changed the whole temper and life of the town. Energetic and not too principled competitors had moved in and spread the word that John Bradley belonged to a day and age that had passed—that he and his methods were out of date. Gradually they had lured away many of his contract and private patients, although some of them had remained loyal, in spite of the sneers of the newcomers.

Then, on, of all days, the very day he was returning to his home and his patients after attending his son's funeral, he learned that the new industry had failed and that a good share of his savings, invested along with those of most of the rest of the people of the community, had been swept away. He must have had little heart to go back to his depleted practice, but he did. In spite of his advanced years, he made a new beginning. Those who had tried the smart young doctors found they didn't like them and their methods so well and began turning back to him. His contract practice picked up too, and in time he was doing well again. But he was an old man now and lonely. And, in spite of his new prosperity, sad.

"Doctor Bradley Remembers" of course is purely a work of fiction. It does not pretend to be the life story of any person, living or dead, although it is believed that the author, an Englishman and a former practicing physician, as well as author of some 26 novels and several books of poetry and belles-lettres, has drawn pretty heavily upon his own experiences and observations. Pure fiction though it is, this story is, in a sense, a history of contemporary medicine.

When, for instance, his friend Martin Lacey contracted syphilis as a result of an infection received while performing an operation at a time when little was known about the disease and Wassermann and Ehrlich were only relatively unknown scientists, John Bradley declared: "Good God, Martin! My poor fellow!" And the surgeon shook his head, smiled and replied:

"Don't look so distressed, John. A surgeon's always in the front line, you know, and it's no use squealing if you have the bad luck to be hit. You look at an ordinary sore throat, and the patient chokes and spits in your eye; if you're a dentist you examine an ulcerated gum or an abscess at the root of a tooth, and you just happen to have a bit of torn skin on your finger—as I did, worse luck. . . . Some day we may discover a blood test that will put things like that (extent of cure) beyond doubt. I was over in Germany last autumn. There's a fellow called Wassermann actually working on it, and he's confident something may come of it. And there's another man, Ehrlich, a chemist, who's busy with the idea of producing some substance—a non-poisonous organic compound of arsenic or antimony probably—that can be injected into the blood-stream and

kill those damned organisms without killing the patient as well. . . ."

Doctors are such busy people and have so much reading of medical literature to do to keep abreast of the latest advances in their own field, that they have little time for general reading. "Doctor Bradley Remembers" comes in the latter classification, but those who read it will feel a greater pride in their work and obtain a better conception of the remarkable progress it has made within the life-span of the older members of their own profession.

J. M. G.

The 1938 Year Book of Physical Therapy. By Richard Kovacs, M. D., Clinical Professor and Director of Physical Therapy, New York Polyclinic Medical School and Hospital. Cloth. Pp. 479. Price, \$2.50. Chicago: The Year Book Publishers, Inc., 1938.

This work contains abstracts of important recent articles in a field which is coming to the fore as a highly specialized branch of medical practice. Methods of physical therapy and indications for its use are brought out. The application of physical therapeutic methods in practically every medical and surgical speciality is considered. For the most part the volume is too technical to be used advantageously by anyone who is not versed in the fundamentals of physical therapy.

The multiplicity of methods used and the numerous types of apparatus employed are a revelation. The manifold conditions for which therapeutic claims are made indicate that much work in this field is still in an experimental stage. The book is well illustrated but is a bit too voluminous for a book consisting solely of abstracts. This book is recommended only for those who are especially interested in and have more than a basic knowledge of the field of physical therapy.

D. B. M.

Our Common Ailment, Constipation: Its Causes and Cure. By Harold Aaron, M. D., Medical Consultant to Consumers Union of U. S. Inc. Cloth. Pp. 192. Price, \$1.50. New York: Dodge Publishing Company, 1938.

The lay public undoubtedly has exaggerated the importance of constipation. Everyone seems to think that a bowel movement once a day of adequate amount is essential to prevent an accumulation of poisons in the body that may be responsible for anything from vague sluggishness to rheumatism. Manufacturers of laxatives are to a large extent responsible for these exaggerated ideas and for the accompanying idea that cathartics are essential to good health. If the amount of money spent annually on cathartics could be spent on the eradication of disease, the nation would be much healthier.

The author of this book on constipation takes a sane attitude toward his subject, decries the indiscriminate use of cathartics and discusses the various laxatives, their composition, advantages and disadvantages, stresses the need of simple hygienic measures and the ridiculousness of trying to fit all bowel habits into one pattern. He stresses the fact that organic disease may be the cause of constipation and can be ruled out only by thorough examination and he brings out the point that constipation is a result of habits of negligence and can generally be cured by regulation of habits.

C. K. W.

The Treatment of Fractures. By Charles Locke Scudder, A. B., Ph. B., M. D., F. A. C. S. Consulting Surgeon to the Massachusetts General Hospital; Formerly Assistant Professor of Surgery at the Harvard Medical School; Fellow, American Surgical Association; Member of the American Society of Clinical Surgery. Eleventh edition, revised. Cloth. Pp. 1,209, with 1,717 illustrations. Price, \$12.00. Philadelphia and London: W. B. Saunders Company, 1938.

It has been about twelve years since the last or tenth edition of this book, and a rather careful review of both editions reveals that this recent one has been practically entirely rewritten. The increase in automobile travel and industrial hazards has necessitated inclusion of a number of different types of fractures, along with general improvement and changes in their treatment. It would seem that all of the recent developments, including the modern but well established treatment of fractures of the neck of the femur, are included.

There has been a marked increase in the number of contributors in special fields and this has added interest to the work.

It is essentially a new book on fractures, written by a man who amply qualifies as an expert in his field. Anyone who attempts to treat fractures would do well to own this book even though the tenth edition is already on his shelves.

J. L. B.

Spinal Anesthesia. By Louis H. Maxson, A. B., M. D., Practicing Specialist in Anesthetics; Former Chief Anesthetist, Harborview (King County) Hospital, Seattle, Washington. With a foreword by W. Wayne Babcock, M. D., LL. D., F. A. C. S., Professor of Surgery, Temple University School of Medicine. Cloth. Pp. 367 with 67 illustrations. Price, \$6.50. New York and Philadelphia: J. B. Lippincott Company, 1938.

This book itself consists of 367 pages with 67 illustrations. It is decidedly the most comprehensive work on spinal anesthesia that the reviewer has come in contact with. It contains a very extensive bibliography and most of the authors on spinal anesthesia are quoted freely. The history of spinal anesthesia is very inclusive, August Bier of Kiel, later of Bonn, Germany, being spoken of as the real father of spinal anesthesia. It is interesting to note that in 1898 he had the temerity to have 2 cc. of 1% cocaine solution injected into his own spinal canal to observe its effects. From that time on the procedure has gradually grown, passing through some latent periods during which it has been kept alive by a relatively few individuals.

All of the drugs which have been used for spinal anesthesia are reviewed. It is noted that in 1927 great impetus was given to the subject because of the work of George B. Pitkin with spinocaine. A reaction from this over enthusiasm has now taken place and it is the author's opinion that this method of inducing anesthesia has won its way to the high plateau of intelligent and rational utilization of its benefits to patient and surgeon. Since 1929 a tremendous amount of laboratory investigation has been done, and this, with widespread clinical use, has established the principles on which spinal anesthesia is based, has cleared up disputed points of physics and physiology and consequently increased its safety and usefulness. The author states that it was to recapitulate the findings of this period that the book was written.

A detailed anatomical description of the spinal

canal, the nervous system and its coverings is given. The physiologic aspect of the central nervous system and the autonomic nervous system is included. The pharmacologic and physiologic discussion of the different drugs used in the actual injection, and also those used as adjuncts is a valuable inclusion.

The remaining portion of the book is devoted to the techniques of different men who are well known in the field of spinal anesthesia, with their opinions in regard to the effectiveness and safety of the methods; a splendid chapter on the effects of spinal anesthesia on the body as a whole and also on the individual systems; the methods and drugs which are used in the event of emergencies arising during the period of anesthesia; a chapter on failures, difficulties and dangers, which contains valuable information to everyone coming in contact with a patient on whom the method is used; chapters on complications and sequelae and an excellent one on advantages and disadvantages with indications and contraindications.

The author takes a conservative stand on the usefulness of the method and regards it as a valuable adjunct to the armamentarium of a well qualified anesthetist. He does not attempt to force any one technique or drug on the reader. Doctor Maxson strikes a definite note of warning in regard to the supervision of the patient after the administration of spinal anesthesia. He feels that this should be in the hands of a physician who is thoroughly familiar with all conditions and complications which might arise and who is also familiar with the methods of combating these complications should they develop.

The reviewer heartily recommends the book as a valuable one to surgeons and likewise to anesthetists.

J. L. B.

Medical Information for Social Workers. By William M. Champion, School of Applied Social Sciences, Western Reserve University. Cloth. Pp. 515. Price, \$4.00. Baltimore: The Williams and Wilkins Company, 1938.

Social workers will be grateful for this contribution as they have long felt a need to have an accurate understanding of the facts about disease and medical care which will enable them to assist in the adjustment of personal and environmental factors which maintain health and effect recovery. The information contained in this book grew out of material presented by specialists in the various fields to the students in the School of Applied Social Sciences, Western Reserve University.

There are thirty chapters covering 515 pages. The book begins with the diseases of the adult, giving common signs, symptoms, etiology, cure, prevention and prognosis. No attempt is made to give the effect and use of drugs. The chapter on "The Selection of a Physician" is particularly good as it gives the lay person an insight into the reasons for medical ethics as well as suggestive information to prepare the patient for a medical examination; what he may expect and how he can contribute to the examination. This book is valuable in all fields of human endeavor to social workers as a reference book. The illustrations are perhaps a bit exaggerated but at the end of each chapter is a discussion of the part a social worker may play which should be helpful.

A. P. B.



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Miscellany

DEADLY SUBSTANCE HAS BEEN FOUND IN
DRUG "CAUSALIN"

PRODUCT RECOMMENDED BY DISTRIBUTOR FOR
ARTHRITIS TREATMENT CONTAINS AMINOPYR-
RINE WHICH HAS CAUSED MANY DEATHS

The Council on Pharmacy and Chemistry of the American Medical Association has found that the drug "causalin," recommended by the distributor for the treatment of arthritis, contains aminopyrine, which causes decrease in the granular white blood cells.

V. J. Dardinski, M. D., and E. Stuart Lydane, M. D., Washington, D. C., report, in *The Journal of the American Medical Association* for Jan. 14, a case of agranulocytosis which they believe was caused by this drug.

The patient died on the day of admission to the hospital. He was admitted in a semi-coma, but the history obtained from his family revealed that he had been taking causalin tablets for his arthritis for four months. The definite number of tablets taken could not be determined, but it was believed that he had taken well over 100. There have been many

reports of death from proprietary medicines containing aminopyrine.

REST IS MORE ESSENTIAL THAN SLEEP

Occasional insomnia without worry is not harmful; as long as sufficient hours of rest—whether asleep or awake—are taken, it is unimportant if sleep during that time is not constant, declares Robert S. Carroll, M. D., Asheville, N. C., in his article, "Sleep—Natural and Artificial," in the February issue of *Hygeia, The Health Magazine*.

The important point is that wakefulness should not be accompanied by concern or alarm, for worry is apt to cause a neurosis, or nervous tension, that in itself is harmful and precludes either sleep or rest.

The physician considers sleep as secondary to its objective, rest. Equally pertinent is the fact that when the neurotic insomniac learns to rest, to compose mind and body, sleep will care for itself. Sleep is never a true problem in any case until the ability to rest is lost.

In addition to the inevitable anxiety associated with insomnia, there stalks the ap-

palling fear of insanity. Hundreds candidly tell themselves, "I must sleep or lose my mind." Others of the still more fearful disposition punish sleep as they morbidly struggle to evade the admission of this dread possibility.

Often the unrealized truth is that the patient does sleep more hours than he believes or reports, but the quality of that sleep is so poor as compared with the normal that the sufferer wakens morally certain that he has "not slept a wink." The fault lies in the quality, not the quantity of repose.

The fear of sleeplessness is, then, an outstanding symptom of insomnia. Little thought is required to recognize the certainty with which this fear becomes mental tension. Thus the thing dreaded is created in the dreading.

Of course sleeplessness has innumerable physical causes, which should be investigated first. Today's physician will now check in detail the patient's emotional equilibrium and determine whether the anxiety is primary or secondary to the physical discord.

The patient should secure intelligent professional aid following the warning of a third consecutive sleepless night.

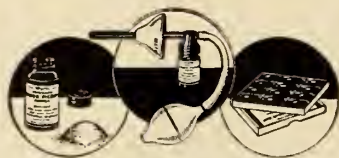
It is possible that simple things will be helpful: a change in diet, a lighter evening meal, a glass of hot nourishment just before retiring or a relaxing neutral bath and a heartening feeling of confidence in the trained human understanding of your doctor. For most habitual insomniacs a wiser philosophy is attained when the situation is transformed from anxiety into satisfaction.

Wisely, these individuals will make use of these otherwise wasted hours. On the bedside table they will place a history of England, of France, a beginner's textbook in botany, a volume of essays, not forgetting our own Emerson—textbook, notebook and pencil. A half hour of wakefulness, and one turns one's attention from the elusive problem to an hour's serious work of reading and note taking. The practical certainty of the gradual disappearance of one's insomnia is significant when it is thus scientifically and resolutely utilized for benefit.

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CLINICAL TYPES OF CIRCULATORY FAILURE AND THEIR TREATMENT*

By
W. G. HARRISON, JR., M. D.
Birmingham, Ala.

The physician in his daily practice is apt to encounter numerous and varied types of acute circulatory failure. The physiologic changes are so different in many of these disorders that it seems worth while to discuss for you several of the most significant ones and to consider some of the important physiologic disturbances therein. The main forms that I wish to discuss are those types with which I have been intimately associated at one time or another and should prove as interesting to the surgeon as to the internist. Prevalent among these types are shock, congestive heart failure, and the coronary syndrome. In general the ideas of shock presented are similar to those held by Blalock, and many of the views here set forth are in close conformity with those expressed by Harrison.

SHOCK

Among the many clinical signs and symptoms of shock are weakness, dizziness; cold, clammy skin; rapid, feeble pulse; low temperature, diminished blood pressure, decreased cardiac output, diminished blood volume, increased blood concentration and, if severe, there may be prolonged unconsciousness.

There are two forms of shock that have been widely discussed. The first is the primary form which comes on immediately after severe trauma. The most satisfactory explanation for this type of shock is that suggested by Goltz who felt that the important change in the circulatory system is vasodilatation. The other form of shock is called secondary shock and comes on later. The many theories advanced for this type of

shock include those of inhibition, fat embolism, vasomotor paralysis, exhaustion, hypo- or hyper-activity of the suprarenal glands, acidosis, acapnia, capillary congestion and, finally, the theory of toxemia.

Most of the theories of shock have become untenable. Following the work of Cannon and Bayliss during the World War and of other previous investigators, the view became widely held that traumatic shock was largely due to the absorption of a toxin such as histamine or histamine-like substances liberated from the injured area. The more recent work of Blalock and his colleagues in Nashville and of Phemister and his colleagues in Chicago have thrown much doubt on this theory of shock, and offer much support for another idea which seems to be standing the test of time and which is becoming widely accepted. First, however, let us consider the various types of shock.

The nervous type of shock includes those conditions that are associated with a decline of blood pressure of reflex origin such as a sudden blow or fainting. Goltz felt that the major initial manifestation of this form of shock was reflex vasodilatation. This type also includes that shock seen following injuries to the spinal cord and following spinal anesthesia. After an injury to the spinal cord, the blood pressure and the amount of blood pumped by the heart decline at the same time. Following spinal anesthesia on dogs, as shown by Burch and Harrison, there is at first a decline in blood pressure, followed later by a decline in cardiac output which is diminished to a lesser degree. The decline in blood pressure was dependent on diminished peripheral resistance as a result of vasodilatation in the anesthetized area. Therefore the treatment of this type of shock is by the use of constrictor drugs such as adrenalin, but especially ephedrine. One can therefore see why it is that after hemorrhage in a patient under spinal anesthesia a loss of a small amount of blood is likely to prove

*Read before a meeting of the Northeastern Division of the Association, Roanoke, March 15, 1938.

more serious and cause a quicker fall in blood pressure than those individuals under ether anesthesia. The reason for this is because spinal anesthesia largely abolishes the vasoconstrictor reflex which normally tends to keep the blood pressure up when hemorrhage occurs. The nervous type, then, is brought on by stimuli acting through the nervous system resulting in vasodilatation, an increase in capillary permeability and then a diminution of blood volume.

The type of shock called vasogenic shock is brought about by substances acting directly on the vessels causing vasodilatation. An example of this type is that following the introduction of histamine. Anaphylactic shock probably belongs to this group. In this type there is increased vascular permeability and hemoconcentration.

The cardiogenic type occurs in disorders in which there is sudden massive effusion into the pericardial cavity or in which there is sudden widespread damage of the heart muscle. Stab wounds of the heart with massive pericardial effusion and coronary thrombosis are included in this group.

Formerly it was held that hemorrhagic shock was brought on by loss of fluids due to hemorrhage, but that traumatic shock was due to an absorption of histamine-like substances from the injured area. More recently, however, Blalock and his colleagues measured the fluid lost from these areas. They found it to be of the composition of blood plasma, something like 4% of the body weight and that this was enough to account by itself for the total reduction in the amount of blood volume and, therefore, the initiation of shock. In a series of carefully controlled experiments carried out in different ways that are too numerous to mention here, he showed that there is no evidence of a histamine-like substance coming on immediately after trauma. In addition he found the initial decrease in the amount of blood pumped by the heart and the later decline in blood pressure that he had found following hemorrhagic shock. (After histamine the blood pressure declines and then later the amount of blood pumped by the heart declines.) Therefore he considers the mechanism of hemorrhagic and traumatic shock the same. After these changes that have been mentioned, there may be an increased blood guanidine as demonstrated by Minot; and thus a toxic factor later may be

superimposed upon the shock due to loss of fluids.

Shock of this type following trauma to the intestines and following burns has a similar mechanism differing only in that the proportional loss of plasma is greater and the relative loss of blood is less than in the shock produced by muscle injury. It appears probable that circulatory failure, accompanying such conditions as excessive vomiting, severe diarrhea, Asiatic cholera, certain poisons, diabetic coma, abdominal emergencies, severe acute infections and other conditions leading to rapid dehydration (as, for example, therapeutic hyperpyrexia), may have the same mechanism. Briefly then, the mechanism of hemorrhagic and traumatic types of shock is thought to be as follows: There is at first a diminished blood volume followed by a decreased venous return and decreased venous pressure resulting in a decreased cardiac output. At first a compensatory vasoconstriction occurs that tends to prevent a further fall in blood pressure. Later, as this vasoconstriction fails to compensate, a further decrease in arterial blood pressure takes place. Dilatation and increased permeability of the capillaries with additional loss from the blood stream ensue. As a result of dehydration and tissue destruction a probable state of intoxication takes place which may be dependent on excess of guanidine or histamine or similar substances. It is important to understand the mechanism of this hemorrhagic or traumatic type of shock and one must likewise realize that several types may be present in the same individual at the same time.

Every means should be used to prevent shock from developing. Operations should be delayed, if possible, when the patient is in a state of severe shock or dehydration. Severe purging before operation, unless absolutely necessary, should be avoided. The preoperative administration of saline, glucose, gum acacia or blood is often advisable. One should guard against the overwrapping of patients to and from the operating room, which is likely to cause sweating and excessive loss of fluids. One should avoid undue tension on retractors, large clamps, large sutures and stitches, massive clamping of tissue, undue loss of blood, unnecessary manipulations, continued trauma to intestines and undue stimulation of nerves. If there is excessive bleeding in the first stage, such

operations as a vaginal plastic, followed by a hysterectomy, should be performed in two stages.

The majority of surgical cases get along better if intravenous fluids, such as saline or glucose, are given slowly during the operation. Gum acacia and blood are more preferable in many cases. The average physician does not give nearly enough fluids following an operation. An excessive increase in pulse rate, even without a profound drop in blood pressure, calls for the administration of large amounts of fluid. In long operations the incision should not be made until the anesthetist has the blood pressure cuff around the patient's arm. In those conditions of hemorrhagic or traumatic shock resulting in rapid pulse and decline in blood pressure, blood or gum acacia should be given because of their greater viscosity. After the blood pressure has remained at a critical level for a certain time, repeated transfusions are of no avail. Therefore, as mentioned before, one should not wait until the blood pressure has fallen greatly before administering fluids. In many cases of shock following hemorrhage or trauma, two or three times as much blood should be given slowly as is usually administered. Where there is excessive loss of fluids, other than blood plasma, the administration of glucose or saline is probably the method of choice. Vasoconstrictor drugs are of very little value in this type of shock. The use of heat and morphine need not be stressed. The use of the vasoconstrictor drugs such as ephedrine and adrenalin are foremost in therapy in the nervous type of shock. Digitalis should never be given in hemorrhagic shock although oxygen may be of some value. The main thing to remember is to administer large amounts of blood or fluids before the shock is advanced, because, if the blood pressure has remained long at a critical level, no amount of treatment of any sort will avail and death will most likely ensue.

CONGESTIVE HEART FAILURE

Quite different are the physiologic manifestations observed in congestive heart failure from those noticed in shock. Indeed, physiologically, congestive heart failure seems to be almost the opposite condition from shock. In shock the major physiologic disturbance is that of reduced blood volume with its decreased venous pressure, decreased

cardiac output and, later, decreased blood pressure. In heart failure, on the other hand, there is an increased blood volume, a decreased or prolonged circulation time, no change or a slight decrease in cardiac output, a usual but not always increase in arterial blood pressure and invariably an increase in venous pressure. Whereas, one of the best treatments for shock is transfusion, one of the most useful procedures in heart failure is venesection, an ancient and time-honored remedy that is once again coming into its own. The symptoms largely arise from an insufficient blood supply to the tissues in shock, while in congestive heart failure the symptoms are largely the result of the inefficient performance of the heart.

In the normal individual the heart by variation of its activity is able to take care of the demands made upon it by the attempted rise in venous pressure, for the venous pressure does not remain elevated. In the cardiac patient, on the other hand, the heart is unable to take care of the load thrust upon it or unable to take care of its rise in venous pressure. Although, formerly, it was thought that the symptoms of congestive heart failure were due to an inability of the heart to properly supply the tissues with blood, it is now known that the major disturbance is due to the inability of the inefficient heart to take care properly of the blood that is leaving the tissues. This is manifested by an increase in venous pressure, and it is this increased venous pressure, as we shall see, that is largely responsible for the major signs and symptoms of congestive heart failure.

Dyspnea on exertion is the early symptom of cardiac disease and is now known to be due not to chemical changes occurring in the blood, as was formerly thought, but to (1) reflex stimulation of respiration from the moving muscles, (2) reflex stimulation from the extra rise in venous pressure near the heart, occasioned by exercise, and (3) the extra rise in pulmonary venous pressure. These reflexes have been demonstrated in dogs.

The edema of heart disease is now known to be largely due to the increased venous pressure, with other minor factors playing a part in some cases. Acute pulmonary edema and so-called cardiac asthma are thought to have as their origin a sudden increase in pulmonary venous pressure with sudden ex-

tra increase in congestion and a further sudden decrease in vital capacity, accentuated or brought on by such factors as exertion, straining at stool, excitement, changes of body posture, sleep and cough.

Orthopnea, which is a necessity for the cardiac to assume the upright position in breathing, is intimately related to the increased vital capacity and the decreased cisternal pressure in that position. The decrease in vital capacity in the cardiac patient is intimately related to pulmonary congestion and to increased pulmonary venous pressure. Any situation that calls forth an unusually large increase in pulmonary venous pressure is followed by pulmonary edema and greater dyspnea. Likewise, any situation that calls forth an unusually large increase in systemic venous pressure is followed by peripheral edema. In addition, the fluctuating waves of spinal fluid and arterial blood pressure during the phases of respiration may have as their origin the increasing venous pressure to which the increased spinal fluid pressure runs so closely parallel. Even the urinary output in cardiac failure is intimately related to the renal venous pressure. Effusions into the abdomen and serous cavities cause an extra rise of venous pressure and more dyspnea in these patients. All of these factors mentioned, including the size of the heart in failure, are intimately related to the increased pulmonary and systemic venous pressures. The measures employed in successful treatment should be aimed at reducing this venous pressure. For this purpose, the usual medical measures, such as rest, morphine, digitalis and venesection, are too well known to mention, and the drop in venous pressure experienced following these procedures in many of these cases is nothing short of miraculous.

THE CORONARY SYNDROME

This is the type of heart failure the cardinal symptom of which is pain, as distinguished from the congestion of congestive heart failure. If the pain comes on during exertion, is relieved by rest or nitrites, is not associated with fever, leucocytosis, friction rub, or marked sudden or gradual drop in blood pressure without significant changes in electrocardiogram, then one speaks of this condition as angina pectoris. The primary pathologic disturbances thought to be present in this condition are insufficiency of the

aortic valves or an obstruction to the mouth of the coronary artery due to aortitis, but more frequently coronary sclerosis. In all these conditions it has been shown that the flow of blood through the coronary vessels is decreased. It has also been shown that pain is produced in exercising skeletal muscle when the blood supply is obstructed. It is likewise known that some patients with severe anemia develop angina pectoris which disappears as the anemia improves. It has likewise been shown that inhaling an oxygen-poor mixture could produce an attack of angina pectoris in susceptible patients who never had an attack while at rest. The sudden death after angina pectoris is usually due to ventricular fibrillation, and it has been shown experimentally that when the blood supply to the ventricle is reduced and the animal rendered anoxemic ventricular fibrillation is likely to occur. Therefore, the present most widely accepted conception of angina pectoris is that it is a condition resulting from a decrease in blood supply to the heart through the arteries (usually a narrowed coronary artery) and an anoxemia of the cardiac muscle which is thought to be directly responsible for the pain. One can readily see, therefore, why rest, resulting in decreased oxygen demand, the vasodilator drugs, such as nitrites and the administration of oxygen, promote relief in these patients.

If the pain comes on during rest, lasts longer than that of angina pectoris, is associated with feeble, rapid heart sounds, slight fever, leucocytosis, pericardial friction rub, marked fall in blood pressure, certain characteristic changes in the electrocardiogram, such as changing form of the T wave, high take-off of the T wave, broad T wave, inversion of the T wave in Lead One and an absent Q wave in Lead Four, then one calls this condition coronary occlusion. This is a disorder, the pain of which is not relieved by nitrites but requires massive doses of morphine. Digitalis is contraindicated unless cardiac failure supervenes, but prolonged rest in bed is essential. The relation then of angina pectoris to coronary occlusion may be said to be similar to the relationship that intermittent claudication bears to peripheral embolism or thrombosis, or the relationship that cerebral vascular spasm bears to cerebral thrombosis. One can thus see that in coronary occlusion with its fall in blood pres-

sure, decrease in cardiac output, and probably decrease in blood volume, with its resulting insufficient blood supply to the tissues, we have the shock syndrome present in the cardiac patient. Should the symptoms of congestive heart failure appear in this patient as well, then one might have present in the same individual at different times the symptoms of shock, with its major physiologic manifestations present and the symptoms of congestion with its increased venous pressure in the pulmonary and systemic circuits.

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The Eczematous Child—To the pediatrician, infantile eczema is, as a rule, of minor importance but at times it becomes a major problem. In the management of a case of eczema, upon the baby's first visit to one's office, it is of primary importance to allay the fears of the parents as much as possible by explaining very emphatically that eczema is not a fatal disease and that looking after the infant's general health or treating the child in a general way is much more necessary than treating the eczema with all one's might at the expense of the infant's general health. It should be explained that eczema will oftentimes disappear and reappear in spite of the best treatment by all hands; that it will probably disappear and not return by the time the child is one to two years old; that it may recur to some extent every time the baby cuts a tooth, and that, in most cases, the infant will gradually become tolerant of the various foods, external irritants, and so forth, that cause eczema. If the physician can persuade the mother and father not to take eczema too seriously, he will have gone a long way toward successful management of the case and holding the patient. The parents of eczematous infants sometimes become overanxious, demand immediate results and change rapidly from one doctor to another.—*Nunn, Texas State J. Med., Feb. '39.*

THE USE OF LIVING FASCIAL TRANSPLANTS IN CERTAIN TYPES OF HERNIAE*

By

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Forty odd years ago the late William S. Halsted made the following quotation from Schur, a Viennese surgeon of an earlier generation: "If no other field were offered to the surgeon for his activity than herniotomy, it would be worth while to become a surgeon and to devote an entire life to this service."

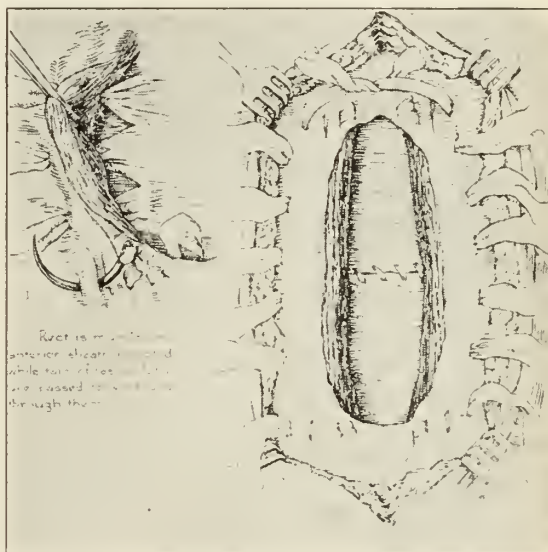


Fig. 1. Patch transplant, using a sheet of fasciae latae (after Gallie).

In 1804 Sir Astley Cooper¹ accurately described the pathogenesis and anatomy of hernia. Operative efforts in the treatment of hernia, however, remained limited to the release of strangulation. Even the advent of anesthesia and asepsis, the events of greatest consequence in the evolution of surgery, awaited the perfection of an adequate technique before surgeons could offer sufferers from this malady promise of relief. In 1889 Bassini² described his operation for the repair of inguinal hernia, which procedure, together with contributions from various

*Read before a meeting of the Southeastern Division of the Association, Dothan, August 11, 1938.

From the Department of Surgery, College of Medicine, University of Tennessee.

1. Cooper, Astley: *Anatomy and Surgical Treatment of Hernia*. London, 1804.

2. Bassini, E.: *Neber die Behandlung des Leistenbruchs*. *Arch. f. Klin. Chir.*, 1890, 40, 429.

sources, established permanently the worth of the operative method in dealing with hernia.

The accumulated experience of the last half century, since Bassini's original report, shows that a number of cases remain refractory to the usual method of repair. During this time many surgeons have sought ways and means to better the end results. The increasing number of laparotomies by an ever increasing number of operators has added materially to the percentage of ventral or incisional hernias, attempts at repair of which, by the usual methods in vogue, have resulted in dismal failures, thus adding to the number of bad end results. Among the outstanding contributions to this problem, more or less epochal, should be mentioned those of McArthur,³ who in 1901 used living

sutures of fascia, cut from and left attached to the adjacent edges of the incised external oblique aponeurosis, to strengthen the hernia repair; Kirschner,⁴ who in 1909 demonstrated the ability of strips or sheets of fascia to survive independently when transplanted as autografts; William E. Gallie,⁵ who in 1921 (Fig. 1) described a method of repair for large ventral hernias by using as a

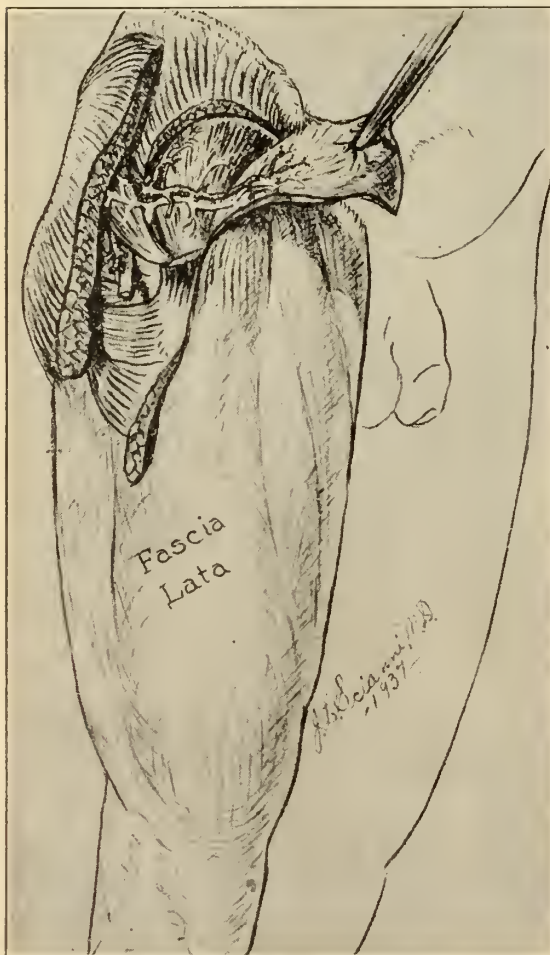


Fig. 2. Tensor fasciae latae muscle.

3. McArthur, L. L.: Autoplastic Suture in Hernia and Other Diseases—(Final Report), J. A. M. A., 1904, 43, 1039.



Fig. 3

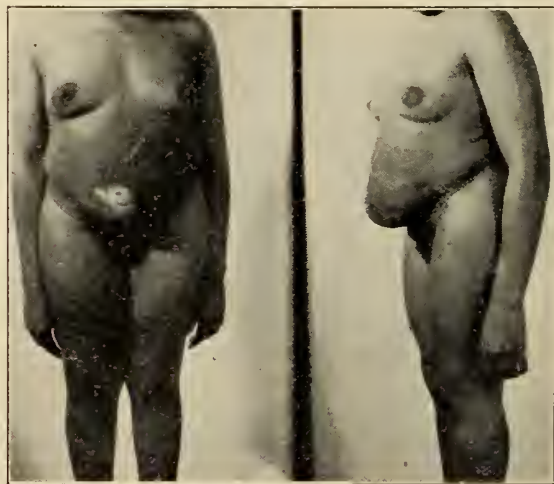


Fig. 4

Figs. 3 and 4. Types of hernia requiring iliotalibial transplant, pedicled on the tensor fasciae latae muscle. Fig. 3. Large ventral hernia with loss of lower fourth of both rectus abdominis muscles. Fig. 4. Large incisional hernia.

4. Kirschner, M.: Freie Sehnen und freie Fascien-transplantation. Verhandl. d. deutsch. Gesellsch. f. Chir., 1909, 38, (Pt. 1) 281.

5. Gallie, W. E., and LeMesurier, A. B.: Living Sutures in Operative Surgery, Canad. M. A. J. 11:504, July '21.

patch transplant a sheet of fascia lata whose ends have been split into quarter-inch strips, so that it resembles an old-fashioned many-tailed abdominal bandage. When the strips have been threaded on needles, they are passed through the thick margins of the ring, and those of one side of the opening are tied to those of the other, bringing the edges as close together as seems desirable. In 1924 McKenzie⁶ of New Zealand described, under the title of "The Repair of Large Abdominal Herniae by Muscle Transplantation," the use of the tensor fasciae latae muscle itself for

the repair of a large defect in the lower abdomen. In this report, McKenzie presented a new application of a well established principle in plastic surgery, viz., the transplantation of a musculotendinous structure with its nerve and blood supply intact. In 1933 Owen H. Wangenstein⁷ presented before the Western Surgical Association a paper entitled "Repair of Recurrent and Difficult Hernias and Other Large Defects of the Abdominal Wall Employing the Iliotibial Tract of Fascia Lata as a Pedicled Flap." He reported 14 cases operated upon; twice for repair of large abdominal defects caused by removal of malignant tumors of the abdominal wall; five times for the repair of large incisional hernias; once in the closure of a large recurrent femoral hernia, and six times in the repair of large recurrent inguinal hernias.

The technique to be described by the speaker, and used by him in a series of four cases, is a combination of the Gallie, the McKenzie and the Wangenstein principles. Before entering upon the description of this



Fig. 5

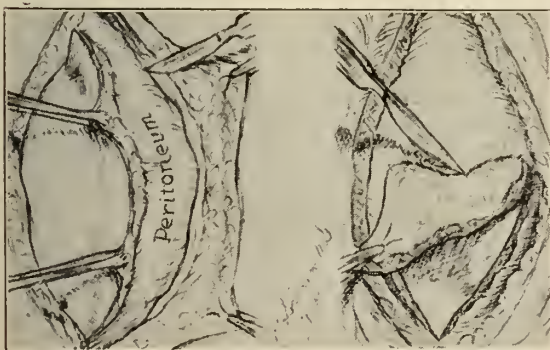


Fig. 6

6. McKenzie, K.: Repair of Large Abdominal Hernia by Muscle Transplantation, *Brit. J. Surg.* 12: 28-30, July '24.

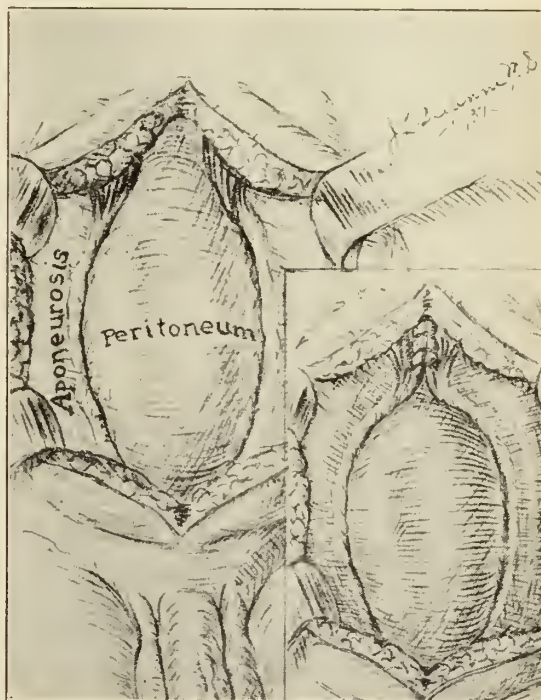


Fig. 7

Figs. 5, 6 and 7. (Case 2). Dissection of the sac and exposure of the ring.

7. Wangenstein, Owen H.: Repair of Recurrent and Difficult Hernias and Other Large Defects of Abdominal Wall Employing Iliotibial Tract of Fascia Lata as a Pedicled Flap, *Surg., Gynec. & Obst.* 59: 766-780, Nov. '34.

technique, allow me to digress, in order that I may point out certain anatomical features of the tensor fasciae latae muscle which make it so suitable for the purpose in hand, viz., the transfer of a living fascial transplant (Fig. 2). This muscle, arising from the anterior part of the outer lip of the crest of the ilium and the outer surface of the anterior spinous process between the gluteus medius and the sartorius muscles, is inserted into the fascia lata about one-fourth down the outer surface of the thigh; from this point of insertion it is continued downward to the head of the tibia as the iliotibial band. This fascia has great tensile strength. Kirschner found that, whereas strips of periosteum were torn by a pull of 13 pounds, a similar sheet of fascia lata supported a weight of 90 pounds. The innervation and blood supply of this muscle come from the superior gluteal nerve and artery, reaching the muscle from behind where they course over the gluteus minimus muscle.

It is this muscle that was first used by Mc-

Kenzie in 1924, and Wangenstein in 1933, as the pedicled support and base for the mobilized iliotibial tract. Wangenstein says: "The facility of transfer and lack of compromise of any important function performed by this tendinous structure in the thigh eminently fits it for the repair of defects of the abdominal wall and the inguino-femoral region."

The following cases graphically illustrate the type of hernias in which the technique to be described is applicable.

Four cases have been subjected to the following technique, sketched by the artist (Case 2). We will designate it the Gallie-McKenzie-Wangensteen operation.

Careful preoperative preparation of the skin is very important and meticulous care in the aseptic conduct of the operation is essential.

In placing the patient on the table, it is important to tilt up the pelvis and thigh of the side to be operated upon, by placing sandbags beneath them. This maneuver permits

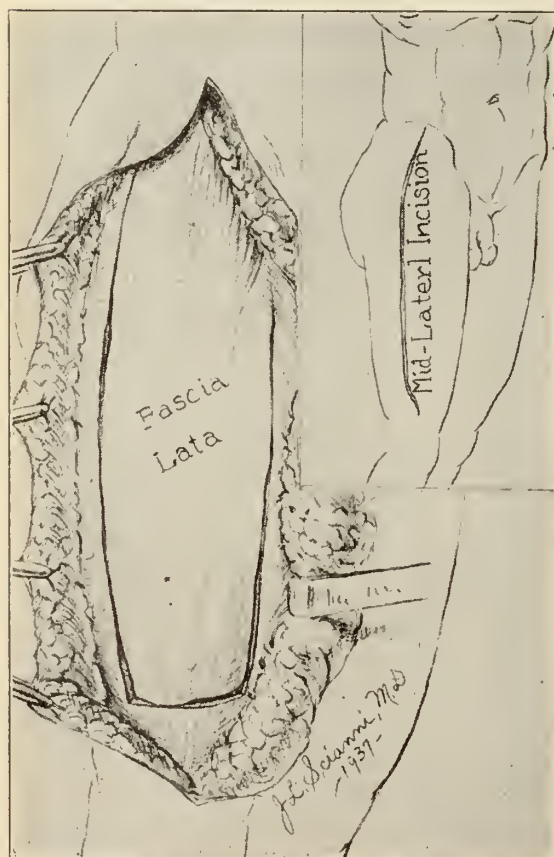


Fig. 8. (Case 2). Exposure of iliotibial tract and fashioning the fascial flap.

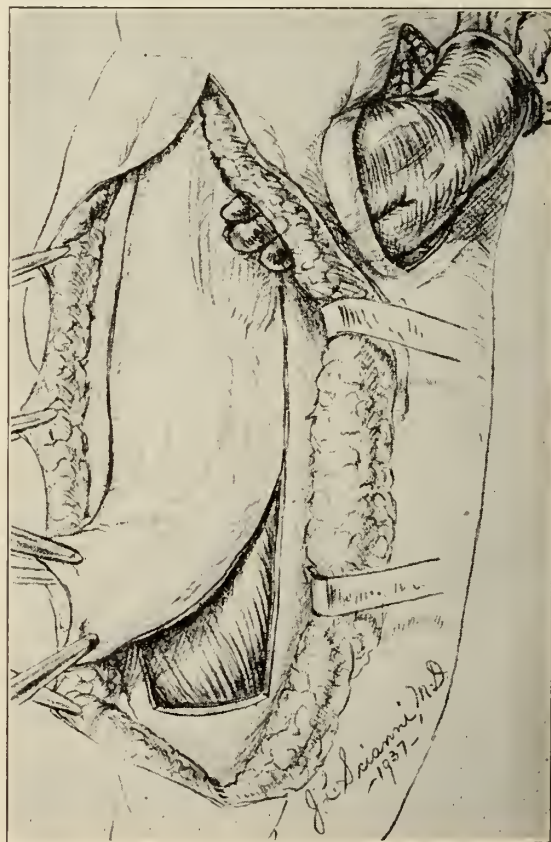


Fig. 9. (Case 2). Mobilization of the flap and tunneling beneath the skin, Camper's and Scarpa's fasciae, but above Poupart's ligament.

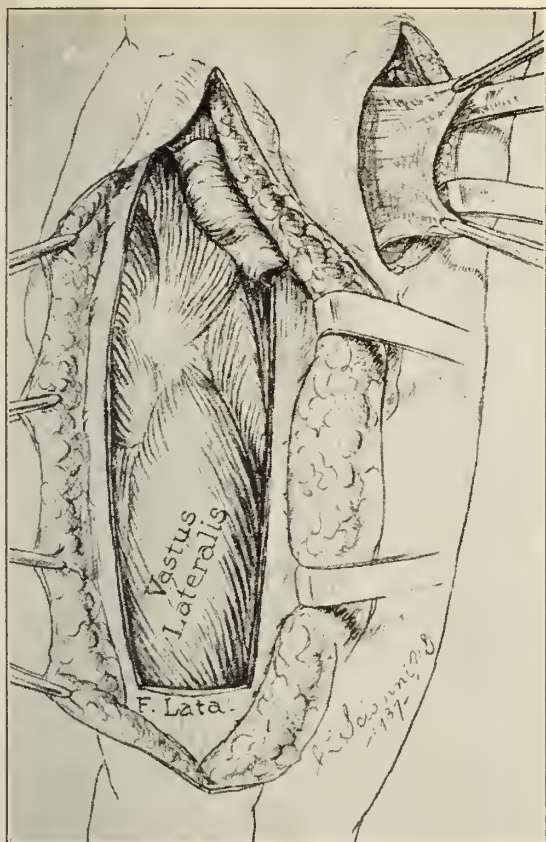


Fig. 10. Flap brought into the wound through the tunnel beneath the skin, Camper's and Scarpa's fasciae.

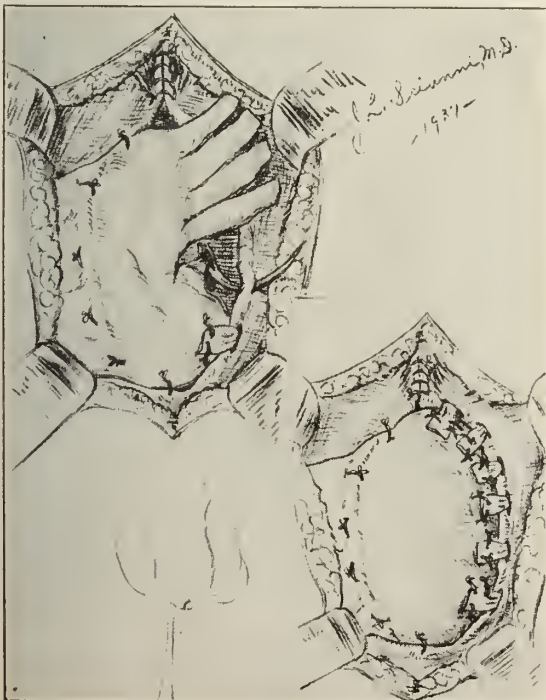


Fig. 11. Fascial flap sutured into place securely closing the defect in external aponeurosis.

better access to the posterior and stronger portion of the fascia lata, viz., the iliotibial tract, which is to be mobilized.

Spinal anesthesia is the anesthetic of choice—provided there is no contraindication to its use.

In the conduct of the operative procedure, the hernia, its sac and contents are dealt with in the usual manner and in accordance with the indications of the individual case, as the dissection progresses to completion of this first stage (Figs. 5, 6, 7). Absolute hemostasis is to be attained before the fascial flap is swung into place. At this time an estimate is to be made of the required length and width of this flap.

A midlateral incision (Fig. 8) is made over the anterolateral aspect of the thigh from just below the anterior superior spine and may be extended down to the knee. This incision includes skin and subcutaneous tissues

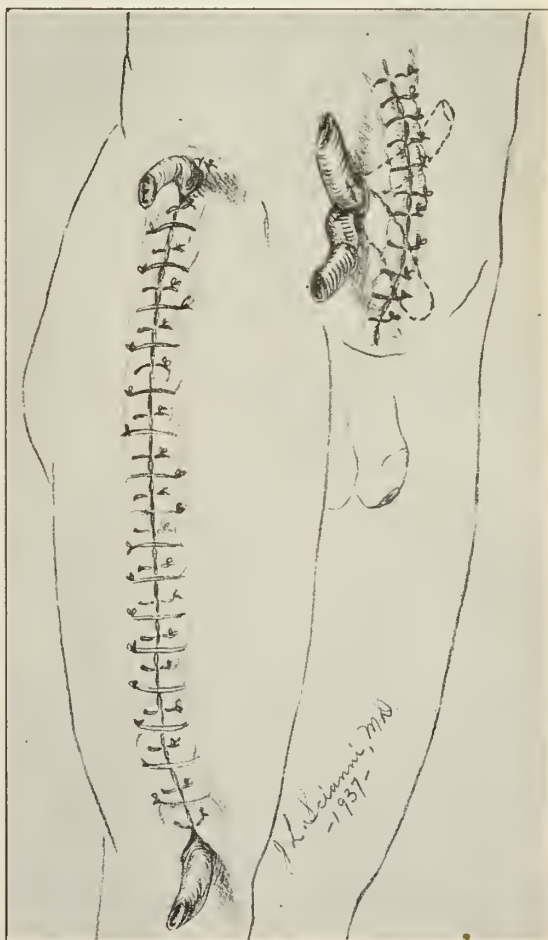


Fig. 12. Closure, with drainage, of skin incisions.

to the depth of the fascia lata. The edges of this incision are under-cut in accordance with the width of the flap desired.

The incision in the fascia is made just lateral to the sartorius and is prolonged downward over the vastus lateralis. At the lower end of this fascial incision it is extended in a posterior direction for four to six inches or for a sufficient distance to procure a flap of proper width. A vertical extension of this incision is then made upward from its posterior end (Fig. 8).

In this manner the iliotibial tract of fascia is mobilized as a flap. When it is cut loose from the intermuscular septum between the biceps femoris and the vastus lateralis muscles, it remains suspended by the tensor fasciae latae muscle only. The inferior surface

of this flap is smooth. The superior gluteal nerve and artery reach the tensor fasciae latae muscle from behind and there is no danger of injuring them in raising the flap (Fig. 9).

The flap is now brought into the wound by tunneling (Fig. 10) beneath the skin, Camper's and Scarpa's fasciae, but above the inguinal ligament (Poupart's).

The fascial flap (Fig. 11) with fatty side down is now securely anchored with chromic catgut No. 1 interrupted sutures to the external aponeurosis of the same side as the thigh from which the flap is taken near its free border. The width of the gap to be patched is now measured by laying the flap in place, at the same time estimating the desired degree of tension, and the free border is slit into the desired number of strips (one



Fig. 13. (Case 1). Large ventral hernia with loss of lower one-fourth of the left rectus muscle and a portion of left external oblique muscle. Defect measured 4" x 5". Bedridden for two years. Operated upon May 1936. Recovery complete. Disability none.

strip opposite each fixation suture on the opposite side). These strips are threaded through a fascial needle and passed from within outward, through the aponeurosis of the opposite side and the free ends sutured to itself.

The skin flaps are now approximated with silk sutures (Fig. 12). One or more rubber tissue drains are placed subcutaneously through stab wounds.

The skin incision in the thigh is now closed with silk sutures, no attempt being made to

close the fascial defect. This wound is also drained for 48 hours.

The patient is returned to bed and two pillows are placed beneath the knee to keep the thigh flexed. For 24 hours a duodenal tube is kept in place and suction-siphonage maintained as a prophylactic measure against gaseous distention. The patient is kept in bed for 16 days. A slight fullness persists beneath the anterior superior spine where the flap is swung upward. No functional disability in the thigh or leg is complained of because of transfer of the iliotibial tract.



Fig. 14. (Case 2). Large ventral hernia with loss of lower one-fourth of both rectus abdominis muscles. Defect measured 4" x 3". Totally incapacitated. Operated upon May 1937. Recovery complete. Disability none.

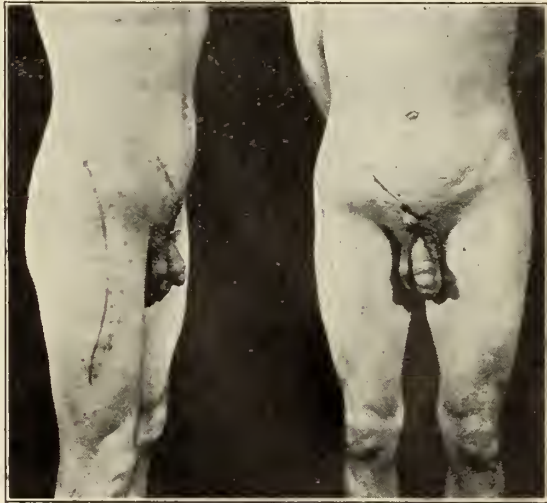


Fig. 16. A large recurrent, direct, inguinal hernia. Defect measured 3" x 3". Operated upon October 1938. Recovery complete. Disability none.

SUMMARY AND CONCLUSIONS

A brief historical review of the development of herniotomy is presented. Four cases are reported. Two of large ventral hernia, one incisional hernia, and one recurrent direct inguinal hernia are reported as cured, employing the iliotibial tract of fascia as a flap, pedicled on the tensor fasciae latae muscle.

In the use of this strong sheet of fascia pedicled on a muscle whose blood and nerve supply is preserved, one has available an effectual and practical method for the repair of large difficult hernias and large abdominal defects, which meets all requirements for ideal tissue transference.

The transference of this musculotendinous graft does not compromise any function of the thigh which it ordinarily performs.

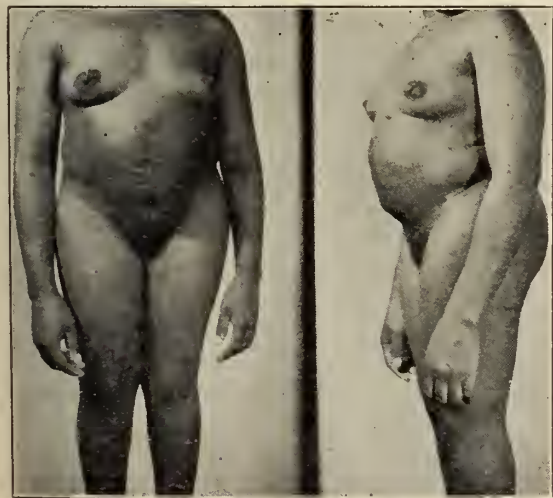


Fig. 15. (Case 3). A large recurrent incisional hernia (two attempts at closure have been made). Defect would chamber one's fist. Operated upon July 1938. Recovery complete.

PROBLEMS IN THE DIAGNOSIS OF
HYPERTHYROIDISM*

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There is no difficult problem in the diagnosis of typical hyperthyroidism. The usual response of the body to hypercombustion results in classical symptoms and signs: large appetite, nervousness, activation, weight loss, excessive warmth and fast pulse. However, hyperthyroidism may be present and even cause disability with few of the above symptoms recognizable. Such cases are represented by some patients with cardiac failure and other elderly patients with hidden or apathetic hyperthyroidism. Contrarily, symptoms suggestive of thyroid toxicity may be present in patients who do not have thyroid toxicity. For this reason patients in whom the diagnosis of hyperthyroidism is not fairly certain require close study. Such study will be guided wisely by knowledge that the pathologic physiology of hyperthyroidism is hypercombustion of the organs of the body and of the body as a whole. The heart of the toxic patient is rarely quiet even in sleep. The hands are rarely cool. The nervousness of the patient is activation, a state in which the patient cannot relax physically for many minutes. This hypercombustion may be shown in the laboratory by an increase in the metabolism of the body at rest.

In a consideration of the differential diagnosis of hyperthyroidism, there are several groups of patients who present disturbing problems. An attempt will be made to classify roughly these who cause confusion and to give some points which may be helpful in diagnosis. There are three groups: one, those patients with apathetic hyperthyroidism or cardiac disability due to hyperthyroidism (this I consider the most important group); two, those patients who may be classified under the psychogenic heading, neurasthenia, neurocirculatory asthenia, etc., (this I consider the most prolific group); and three, those patients with hypertension and menopause in combination (this I consider the group in which diagnosis is most difficult).

The importance of the first group lies in

the fact that these patients are usually going down hill toward death which will intervene unless the thyroid disease is altered. The symptoms of toxicity are not obvious, not because the disease is different but because the patient's body is old and it reacts differently to toxicity. There is not often exophthalmus. Activation is missing, the patient is "burnt out." Sometime there is no increase in pulse rate. But usually there is considerable loss of body weight, and perspiration may be excessive. The skin is warm and soft. The basal metabolic rate may be only moderately elevated and possibly within the usual limits considered normal. These patients with apathetic hyperthyroidism show a remarkable change following thyroidectomy and even though very old may be made active again.

Hyperthyroidism causes excessive activity of the heart, and the general increase in metabolism calls for more work by the heart. For this reason thyroid toxicity may cause a moderately damaged heart to fail and may cause angina pectoris in a heart which under ordinary circumstances would give no symptoms. Therefore it is wise to consider hyperthyroidism as a possible factor in heart failure and angina pectoris. This is especially important when the etiology seems rather obscure. Auricular fibrillation of the thyrocardiac cannot be so well controlled or slowed as is possible usually with digitalis where toxicity is absent and this lack of response may suggest hyperthyroidism. The presence of auricular fibrillation in a heart which lacks other evidence of damage makes the diagnosis of hyperthyroidism likely. Widening or increase in pulse pressure is a suggestive sign of hyperthyroidism. In these patients, both the apathetic and the thyrocardiac group, the thyroid gland may not be noticeably enlarged, but on feel it is usually firm and may be pebbly.

In any thyroid clinic there presents itself a large group of patients who complain of nervousness and fatigue and in whom the final diagnosis is "no thyroid toxicity." These patients are generally diagnosed as neurasthenic. Their symptoms result from environment which has caused various types of reactions but almost always nervousness. If some of these patients happen to have a colloid goitre and it is removed the results are disappointing. This is natural because its presence had nothing to do with the patient's

*Read before a meeting of the Southeastern Division of the Association, Wetumpka, October 13, 1938.

complaints. A careful history in these patients will usually ward off any mistake in diagnosis. The patients have a lack of well being, they go to bed tired and wake up tired. Often the onset of symptoms can be traced to some emotional upset but this is not true in those cases who have succumbed gradually to the bombardment of adverse or seemingly overwhelming difficulties. The patients sleep poorly and eat poorly in contrast to the hyperthyroid. Any weight loss in this group is usually due to undernutrition. These patients often have cold hands and feet; and anyone who has a cold, clammy hand to shake usually does not have hyperthyroidism. Choking sensation is not a sign of hyperthyroidism; it may be a sign of pressure on the trachea from a large nodular goitre or from the hard gland of thyroiditis. But very often a choking sensation is due to emotional upset. Do we not all "choke" with emotion or at the making of a speech? Before any thyroid is removed for a choking sensation the constriction of the trachea had best be shown by antero-posterior and lateral x-ray views of the trachea.

Often a metabolism test is elevated in the type of patient being discussed. Is this a basal metabolism? Remember that to be at basal conditions a patient must be at rest mentally and physically. If a patient has fear during a metabolism test then the test is not a basal metabolism test and it should be elevated. One metabolism reading is not sufficient but the test should be repeated on consecutive days in patients where there is a question as to the diagnosis of toxicity. If three daily tests approximate the same level then one can assume that the readings are near basal, but if the test fluctuates from day to day obviously the results are not all correct. Often the first test is high but then two more may be equal and on a lower level. If a patient is not toxic clinically, do not let one or two metabolism readings make you change your mind too quickly. Finally, if there is question as to toxicity after your studies, then wait and do not treat the patient nor give iodine. Hyperthyroidism is a progressive disorder and it seems wiser to have a definite diagnosis before recommending treatment.

Results after operation in cases classed as borderline hyperthyroidism are consistently disappointing, and although patients may seem improved for a while two or three

years later they still have their same symptoms which were not due to hyperthyroidism originally.

Patients who have hypertension and symptoms due to menopause may in many respects resemble those with hyperthyroidism. They dislike heat and feel warm, they perspire freely, they are nervous and emotionally unstable. But there is usually no loss of weight in this group of patients and the pulse is not rapid when they are quiet. The forceful heart suggests hyperthyroidism but usually blood pressure readings show the pulse pressure to be not increased. It is unusual to see a diastolic blood pressure of 120 or over with hyperthyroidism. The first metabolic rate may be elevated in these patients but repeated tests usually give normal results. The pathologic physiology in these cases is not hypercombustion but cardiovascular overactivity from hypertension and the sympathetic nervous system upset due to the endocrine imbalance of menopause.

CONCLUSIONS

The diagnosis of hyperthyroidism requires an understanding of the physiology of thyroid toxicity. A careful history will always be valuable in a determination of the cause of nervousness, whether it is due to hyperthyroidism or to environmental influences.

Elderly patients with apathetic hyperthyroidism and patients with cardiac disorders due to thyroid toxicity are seriously ill and the recognition of the thyroid disease and its proper treatment means almost uniform good results.

The large group of patients best classed under the head neurasthenia may have some symptoms suggesting hyperthyroidism but careful study will save them from useless treatment focused on the thyroid.

Patients with the combination of hypertension and menopause have so many symptoms and signs of hyperthyroidism that time and care must be taken before this diagnosis is made or excluded.

Carcinoma of the Cervix—Informed opinion is at present overwhelmingly in favor of radiation therapy as the treatment of choice for this lesion. It is further agreed that roentgen radiation and radium rays must be combined to produce the maximum effect on the neoplastic tissue and give the patient the best chance of cure. Since radiation has replaced surgical treatment for carcinoma of the cervix, the percentage of five-year cures reported has progressively increased.—*King and Brandes, South. M. J., March '39.*

PUERPERAL SEPSIS*

By

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Puerperal sepsis, hemorrhage, and the pregnancy toxemias account for the major portion of maternal deaths. Of these three, sepsis may correctly be termed Osler's "Captain of the Men of Death" from an obstetric viewpoint.

Puerperal sepsis has long been a scourge of motherhood but since the revolutionary observations of Oliver Wendell Holmes and Semmelweiss much progress has been made toward restricting the incidence of this dread complication. Semmelweiss propounded the following beliefs:

"Puerperal fever is caused by the conveyance to the pregnant woman of cadaveric particles through the agency of the examining finger."

"May be caused through the conveyance of putrid particles derived from living organisms through the agency of the examining finger."

"May be conveyed to the pregnant woman subsequent to delivery by foul air laden with exhalations from putrefying animal matter."

"May be conveyed to the lying-in woman by foul bed clothes, dressings and sponges, and by the hands of midwives and nurses."

"May be conveyed to a woman subsequent to delivery through the presence in the same hospital of surgical cases producing putrid products; and the puerperal woman may infect herself owing to retention in the birth tract of material which has undergone decomposition; instrumental injuries, bruising, and causing gangrene of the genital tract may produce puerperal fever through self infection."

Any maternal mortality study today proves the correctness of these observations of a century ago. With the later work of Pasteur and Lister, puerperal sepsis was really understood for the first time. Unfortunately, medical knowledge, its dissemination, and its practical application have not been sufficient to eradicate puerperal sepsis.

For a comprehensive discussion of the bacterial agents involved in sepsis I would refer you to any of the modern texts on obstetrics. For sake of brevity I shall only enumerate the common offenders in their probable order of frequency:

1. Streptococcus (aerobic, anaerobic, hemolytic and non-hemolytic)
2. Staphylococcus
3. B. coli.
4. Gonococcus
5. Pneumococcus
6. B. welchii
7. Countless others

These offending micro-organisms have varying modes of invasion, present a varied pathologic picture, and differ materially in degrees of resulting infection.

Without doubt, the most common mode of entry of pathogenic bacteria is through the medium of the examining or manipulating hand of the obstetric attendant. Salient points in this connection are improper preparation of external genitalia, frequent and careless vaginal examinations, frequent and rough rectal examinations, careless scrub technique, unsterile gloves or no gloves at all, unsterile instruments and linens, and hospital contamination from other septic cases.

A less likely but entirely possible cause of infection is that the obstetric attendant or nurse may be a hemolytic streptococcus carrier and unconsciously contaminate with his or her own nasal discharges. This possibility has been conclusively proven by the work of Watson.

Autogenous infection is possible. All women harbor countless bacteria in their vaginal vaults; some few harbor pathogenic bacteria in the vagina, cervix, or urethra. Under certain circumstances these low grade micro-organisms may assume more virulent characteristics. Prolonged labors, traumatizing deliveries, and hemorrhage would weaken natural powers of resistance and predispose to ascending infections of this type.

Any discussion of the pathology of puerperal sepsis is a large order but an adequate conception of this disease must obviously assume some knowledge of the pathologic processes involved. The lesions are many and varied depending on such factors as avenue of entry, type and pathogenicity of the offending micro-organism, and the degree of resistance offered by the infected host.

A brief consideration of the postpartum and postabortal uterus will reveal the ideal setting for an infectious invasion. Immediately following delivery or abortion we have a wide open, extremely vascular, and recently traumatized organ whose interior offers an ideal culture medium for both pathogenic

*Read before a meeting of the Southeastern Division of the Association, Wetumpka, October 13, 1938.

From the Department of Obstetrics, Norwood Hospital and Clinic.

and saprophytic bacteria. At the placental site we find more or less incompletely thrombosed maternal sinuses still liberating a fair amount of blood. In the endometrium proper we find decidual cells rapidly becoming necrotic and being sloughed off. In the uterine cavity we find a mixture of these necrotic elements with blood clots and serum of varying ages. In the cervix we find traumatic lesions from the recent passage of the fetus. Such a picture sets the stage for puerperal sepsis. Once present, the infection spread is facilitated by the intermittent uterine contractions or "after pains." Once established in the uterus the infectious process may spread to adjacent or distant tissues by venous, lymphatic or direct extension.

Occasionally a case is observed with infection of the outlet only. Unrepaired perineal lacerations, unrecognized hematomas, and improperly performed episiotomies all may result in a more or less localized focus. Excessive trauma is important here.

Cervicitis may follow stormy first stages, overstimulation of the uterus, and premature attempts at delivery. Such a lacerated structure may easily become a focus of infection which may extend higher. Routine postpartum examinations will convince any skeptic as to the frequency of postpartum cervicitis.

The initial intrauterine lesion is an acute endometritis. Here the pathologic picture is determined by the type of micro-organism. Nature attempts to limit spread by throwing a protective wall of leucocytes in front of the advancing bacterial hosts. This defensive barrier is usually successful if the micro-organism be of such relatively low pathogenicity as the non-hemolytic or anaerobic streptococcus or of the saprophytic group as illustrated by *B. coli*. Such a process results in a collection of foul spongy debris in the uterine interior and usually is accompanied by uterine subinvolution. Thus some men believe that a foul lochia in a septic case is a favorable prognostic omen. If the offending micro-organism is a virulent hemolytic streptococcus the battle is sometimes lost before the defense mechanism of nature may be erected. Such cocci rapidly penetrate the uterine wall and through any attempt at leucocytic limitation. This invader drives rapidly thus leaving few remnants behind to give rise to a foul lochia. A true metritis results early. Frequently the advance continues by way of the lymphatics to the broad

ligaments. Here a cellulitis and abscess may result.

Direct extension through the fallopian tubes is possible but, with the exception of the gonococcal type, most cases of puerperal salpingo-oophoritis also show evidence of blood or lymphatic extension. Gonococcal puerperal sepsis is characterized by late onset, relatively transient endometritis, and frequent involvement of the tubes.

Peritonitis is a dread termination of many cases of sepsis. Most pathologists believe that generalized peritonitis is the result of blood or lymphatic extension and not to be primarily attributed to direct extension through the fallopian tubes. A cul-de-sac abscess is a more likely termination in the latter type of spread.

Blood stream infection is most commonly encountered in the hemolytic streptococcus type of infection, although the anaerobic streptococcus, the staphylococcus, gonococcus and pneumococcus may be occasionally encountered. The incompletely thrombosed uterine sinuses render any patient with puerperal endometritis a potential case of blood stream infection. Terminal phenomena in such cases may be peritonitis, true pyemia, with metastatic abscesses in the case of staphylococcus, septic pneumonia, septic infarction, and even fatal endocarditis.

Phlebitis and thrombophlebitis should warrant brief mention. These may be of any extent. With the understanding that thrombosis of the venous sinuses in the uterine interior is always nature's mechanism of preventing fatal postpartum hemorrhage, and with the understanding that some hemolytic micro-organisms are occasionally present there in large numbers, the etiology of septic thrombophlebitis is at once clear. This lesion is sometimes considered a protective barrier against further vascular spread and may have several terminations. If nature is successful, a localized phlegmon or abscess may result; if nature is unsuccessful, septic emboli may rapidly prove fatal. Even if the infection be halted, the thrombotic process may extend to the femoral region with resulting phlegmasia alba dolens or milk leg. Such a patient is always a potential sudden death from embolus.

The symptomatology and diagnostic features of puerperal sepsis will not be discussed.

The most important aspect of the entire

subject is the prevention of it. Advances have been made in therapeusis but of more vital interest should be our never lagging zeal to throw every possible safeguard around the parturient woman. Puerperal sepsis should be considered a preventable disease. While it is possible for an endogenous infection to occur rarely, a case of puerperal sepsis should reflect some discredit upon the attendant, the hospital, or upon both.

As a preface to my remarks on prophylaxis I make the unqualified statement that obstetrics does not command the attention and respect which is its just due. To many, obstetrics is a burdensome obligation. Such a state of mind will find disrespect and carelessness lying in wait just around the corner. By no means do I wish to imply that a busy general practitioner cannot do excellent obstetrics, because the vast majority of them do, but I do wish to imply that some few of us make little effort to practice the principles we have been taught and no effort whatever to improve our present knowledge.

"To conduct a labor case without the proper preparation of the operative field, of instruments, and of the operator's hands is evidence of inescapable guilt upon the part of the medical attendant." Statistical tables will vouch for the correctness of this quotation. Regardless of what type of skin antiseptic personal preference will suggest, all patients should be thoroughly shaved and an abundance of green soap and water used before any local antiseptics is attempted.

To repeatedly resort to countless vaginal examinations will needlessly invite disaster. To carelessly resort to rough and countless rectal examinations will traumatize the recto-vaginal septum and court infection.

To prematurely attempt an operative delivery for no valid indication is to exhibit both poor judgment and a disregard for maternal and fetal welfare.

To attempt any operative delivery, except in the gravest emergency, when the training and ability of the attendant hardly qualify him for that procedure is to exhibit an ego which will sooner or later be deflated.

To allow a patient to labor for hours upon hours with no appreciable progress and with no consultation with fellow colleagues is an admission of weakness.

To disregard ominous indices of antepar-

tum toxemia and hemorrhage is to admit an insufficient knowledge of prenatal care.

To casually resort to cesarean section as the easiest way out of almost any obstetric difficulty is to admit an inadequacy of obstetric knowledge, judgment, and skill.

To condone and disregard the prevalence of criminal abortion is to endorse fetal murder and maternal invalidism by our very quiescence.

To intelligently combat shock and maternal exhaustion is to render invaluable assistance to nature's defense mechanisms against sepsis.

To read, to study, and to critically analyze our own results is merely to carry out self imposed obligations as practitioners of medicine.

TABLE 1*

MATERNAL DEATHS BY CAUSE AND CLASSIFICATION	
Total deaths investigated (clinical)	329
True maternal deaths	244
Abortion with sepsis	61
Puerperal sepsis	56
Abortion without sepsis	6
Ectopic without sepsis	9
Placenta previa	6
Other puerperal hemorrhages	35
Eclampsia	30
Other toxemias of pregnancy	9
Cesarean section (not sepsis)	6
Puerperal phlegmasia, embolus	13
Other accidents of childbirth	13

*This and Tables 2 and 3 are from Report on Maternal Mortality in Birmingham and Jefferson County, 1931-1935.

TABLE 2

PRACTICES AT DELIVERY WHICH INFLUENCE THE DEVELOPMENT OF SEPSIS	
	Hospital Home
Patient abnormal when first seen	72% 39%
No preparation before delivery	2% 67%
No trained assistance	0% 75%
Two or more vaginal examinations	14% 18%
Gloves not used	0% 7%
Pituitrin during first or second stage	2% 7%
Operative delivery	74% 41%

TABLE 3

CESAREAN SECTION DEATHS	
Number of deaths	32
Due directly to the operation itself	6
Due directly or indirectly to sepsis	26
Committee comments on cesarean section	
1. Often done for no valid reason	
2. Contraindications often disregarded	
3. Reasonable degree of surgical skill sometimes not possessed by the operator	
4. Adequate consultation often neglected	
5. Proper preoperative preparation neglected	
6. Poor surgical judgment during actual operation	

The limitations of successful curative therapy in this field are well known. It does not lie within our present therapeutic powers to cure these infections. Our paramount attention should be thus directed at maintaining or increasing natural powers of resistance. To that end the following brief outline of treatment is intended:

1. Hospitalization and isolation for obvious reasons.

2. General measures will usually include Fowler's position, additional oxytocics to correct uterine subinvolution, the mildest possible means of increasing elimination by bowel, a diet light enough for consumption yet adequate for the build-up process, the forcing of fluids by vein and mouth if peritoneal symptoms allow the latter, and suitable sedation to insure adequate rest.

3. In blood transfusion we have a most valuable means of maintaining resistance. Anemic patients should of course receive transfusion but it is my own policy to routinely transfuse all patients with sepsis regardless of the blood picture. The frequency and volume of the transfusions will of course largely depend upon the degree of anemia but frequent blood transfusions either actually transfer antibodies or stimulate immunologic responses in the patient herself. Transfuse early and often.

4. There is apparently no pharmaceutical specific for puerperal sepsis. Sera, vaccines, autogenous vaccines, intravenous dyes, and non-specific protein injections have all been disappointing in their actual therapeutic benefits. Recently sulfanilamide has been widely heralded as a panacea for all septic ills. While my own experience has not resulted in quite as much enthusiasm, my results have certainly been most encouraging. If gastro-intestinal symptoms warrant, relatively large doses may be administered by mouth; if not, the intramuscular route may be used. The exact mode of action of the drug has not yet been determined to the satisfaction of all. A precautionary word should be sounded about certain toxic effects of the drug. To be carefully watched for are (a) destruction of red blood cells and the production of certain blood dyscrasias, (b) skin reactions, (c) cyanosis as evidencing altered proportions of certain chemical combinations of hemoglobin, and (d) the finding of some of these altered combinations in the blood.

5. Surgical procedures are of course relatively unimportant in most cases of sepsis. Infected perineal repairs should be laid wide open, localized cul-de-sac abscesses should be drained by vaginal puncture, and some abscesses localizing and pointing in the region of Poupart's ligament may be safely drained. Deep broad ligament abscesses should usually be left undisturbed. Venous ligation for thrombophlebitis is a most questionable procedure and radical hysterectomy will usually only hasten a fatal termination. Uterine culture may be classed as a surgical procedure because of the care which must be exercised when this is done. Often valuable information may be deducted from this simple procedure.

SUMMARY

1. The modes of sepsis transmission have been known for almost a century.

2. Puerperal sepsis should be considered a preventable disease.

3. Present day statistics show the incidence of this disease to be too high.

4. Only by rigid adherence to strict laws of antisepsis and sane obstetrics can the incidence be reduced.

5. Prophylaxis should be important as present day therapeutics are hardly satisfactory.

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POSTGRADUATE EDUCATION IN ALABAMA

Every physician realizes that he must study constantly in order to render a high type of medical care. It is often difficult for the busy doctor to spend as much time as he would like in taking postgraduate courses, attending medical meetings, or even reading the current medical literature.

The Association at its last meeting, realizing the importance of continued medical education, approved a program of medical extension teaching which plans to give the doctors of the State opportunity to take intensive courses in various subjects in their own localities. The Association, in cooperation with the State Board of Health and Tulane University Division of Medical Extension, will shortly begin this state-wide teaching program. Dr. V. P. Sydenstricker, Professor of Medicine at the University of Georgia, will give a course in internal medicine which promises to be of great practical value to the physicians of the State.

In these times of radical changes, the medical profession must maintain a high standard of practice in order to combat efforts of others to change the present methods of medical care.

Since this program is really your own, it is hoped that every member of the Association

will support this program and avail himself of this opportunity to improve the practice of medicine.

THE USE OF DRUGS IN CORONARY DISEASE

"The use of drugs in coronary disease resolves itself into the treatment of several symptoms and functional disorders of the heart and circulation. There are at present no chemical agents that can materially influence directly the course of the structural abnormality in the heart muscle and its blood vessels. Therefore, drugs have no place in the treatment of coronary disease if the subject is free of symptoms or of manifest disorders of function. The one exception is cardiovascular syphilis with coronary involvement.

"The chief specific objectives toward which drug therapy is directed in the course of coronary disease are (1) pain; (2) nervous symptoms: apprehension, anxiety and restlessness; (3) congestive heart failure; (4) paroxysmal dyspnea; (5) shock; and (6) disorders of heart rhythm (auricular fibrillation or flutter, ventricular tachycardia)."

Thus does Gold¹ open his excellent consideration of this increasingly important subject. The author goes on to discuss the various drugs and measures used in the therapy of coronary disease.

The nitrites he considers to be the drugs of choice in the treatment of the pain of effort angina and he reminds us that "these agents dilate all the peripheral arterioles, including the coronary vessels." And we are told that "this is a physiologic form of relief, since the nitrites do not impair perception of pain but abolish the mechanism that causes the pain." The author admonishes us to administer nitrites at the first suggestion of oncoming pain and he holds that there is little or no danger of habituation or injury.

Of the xanthines Gold says "the evidence, therefore, leaves no escape from the conclusion that aminophylline, theocalcin, theobromine with sodium salicylate, or any of the other xanthine compounds exert no action that is useful for the routine treatment of cardiac pain or myocardial infarction."

In regard to morphine we are told that "in the classic case of coronary thrombosis in

1. Gold, Harry: Drug Therapy in Coronary Disease, J. A. M. A. 112: 1 (Jan. 7) 1939.

which there is agonizing pain, anguish and terror of impending death, morphine is the drug of choice. . . It owes its beneficial effects not only to the fact that it relieves pain but to the fact that it abolishes a disposition to move about and in many instances gives rise to a sense of well-being which is quite apart from its analgesic effects, the euphoria, characteristic of this narcotic." And the barbiturates likewise play an important role because of their sedative effect, though we are warned against the danger of too large doses.

"The use of digitalis in coronary artery disease constitutes the most widely debated of all questions concerning the treatment of this disease." Gold believes that there are two general indications for its use: (1) cardiac failure and (2) certain disorders of rhythm with or without cardiac failure, namely, auricular fibrillation, auricular flutter and possibly paroxysmal tachycardia. Gold strongly warns against the excessive and indiscriminate use of digitalis. "The functional disorders of the heart for which digitalis is useful are very uncommon in the course of coronary thrombosis, and in the early days of an episode they are extremely rare. The disintegration of the cardiocirculatory function in coronary thrombosis appears to be a form of shock with peripheral failure, and digitalis is no more useful in this condition than it is in the peripheral circulatory failure of pneumonia, sepsis or traumatic shock. Dyspnea, orthopnea, enlargement of the liver, distention of the veins of the neck and edema are relatively rare symptoms in the early period of a coronary thrombosis. There is, therefore, no indication for the use of digitalis in the circulatory difficulties of most cases of coronary thrombosis, because in most of them the clinical signs of right or left ventricular failure do not occur."

"The indications for diuretics overlap in part those for digitalis. They are useful for the control of congestive heart failure and attacks of paroxysmal dyspnea." And the New York investigator believes that the indications for the use of quinidine and the related alkaloids of cinchona are the same as in other types of cardiac disease.

Gold thinks that iodides are without effect on the symptoms or course of coronary disease in the absence of syphilis, and he denounces tissue extracts, the so-called "heart hormones," as being useless and the extrava-

gant claims made for them as being fraudulent.

Gold believes that drug therapy is extremely difficult to evaluate in the shock and collapse at the onset of an attack. "Caffeine, metrazol, coramine and intravenous dextrose solutions are widely used in the peripheral failure of coronary thrombosis, but there are no satisfactory clinical studies that throw any light on their usefulness.

"The detailed treatment of coronary disease is not within the scope of this discussion, but because only drugs have been considered there is danger that too much emphasis has been placed on them. It is, therefore, well to state that under proper supervision a large proportion of cases of effort angina as well as many with coronary thrombosis will run their course from beginning to end with little or no medicine, and this often with considerable advantage. The prevailing tendency appears to be to overtreat patients with coronary disease than otherwise, to give them too many drugs and too much of each. It ought also to be stated that, while in many instances great suffering is spared and a life is saved through the judicious use of these agents, the major part in the control of this disease lies not in drugs but in expert guidance in making the mental and physical adjustments which will enable these patients to carry on within their capacity without symptoms."

Gold has covered the ground well and his resume' is indeed admirable. Practitioners will do well to heed his advice and that of other capable investigators in this field. For, while the incidence of coronary disease is increasing and while its diagnosis becomes more and more accurate, there is apparently nothing in sight at the present time that gives any great promise of preventing coronary disorders. Therefore, coronary disease will be with us increasingly in the immediate future and it behooves the profession to treat these patients in the best possible manner.

LOBAR PNEUMONIA THERAPY

"Captain of the Men of Death" was the title bestowed by Bunyan on pulmonary tuberculosis but this title was accorded by Sir William Osler to lobar pneumonia. This disease, however, because of the suddenness of its onset, severity of its manifestations, and its relatively high mortality, is one of

the most dreaded of all infections. Shown by Frankel to be caused, in the great majority of cases, by the pneumococcus, it has been the subject of intensive study for the past half century. Little by little the details of the picture have been sketched in. Step by step progress has been made toward the ultimate conquest of this veritable plague of the human race. Milestones along this road of therapeutic conquest were the demonstration by Neufeld and Handel that there were various serologic types of the pneumococcus, and that highly potent antisera could be produced in the horse.

Therapeutic trials of this serum, however, led only to disappointment and it fell into unwarranted disrepute due to lack of knowledge that it could only be successfully employed in patients having homologous infections. With the more recent demonstration by Cooper of the higher serologic types of the organism and the production in the rabbit of type-specific antisera to be used in the Neufeld Quellung reaction—for the identification of the infecting organism in any case—a more intelligent use of antiserum has resulted in a marked reduction of the mortality rate in patients infected with those serologic types amenable to serum therapy. However, major obstacles in the path of any general application of serum therapy have been the necessity for accurate laboratory typing of the infecting organism, the danger of severe reactions following the intravenous injection and the prohibitive cost of the treatment. Today these difficulties bid fair to be overcome by an attack on the problem from an entirely different approach.

Chemotherapy began with the use of atoxyl in the treatment of trypanosomiasis, and, although this drug did not produce the results that were anticipated, it was the point of departure for important researches in the preparation of organic compounds of arsenic and their use in protozoan infections. The first really outstanding accomplishment in this field was the discovery of salvarsan by Ehrlich and Hata in 1910 and the demonstration of its effectiveness in human syphilis. Due to the insolubility and toxicity of this compound, Ehrlich continued his studies and eventually came out with neosalvarsan, a drug which was more soluble, less toxic and equally effective when applied therapeutically.

Subsequent investigations in the realm of

chemotherapy resulted in the addition of atabrine and, more recently, sulphanilamide to the armamentarium of the doctor. The use of the latter drug in certain types of infections has yielded highly satisfactory or even spectacular results but in lobar pneumonia its use has left much to be desired. The possibility remained, however, that some relative of sulphanilamide might be more effective in pneumonia and with this in mind the chemists of the English pharmaceutical house of May and Baker were put to work. The result of their research was the synthesis of 692 compounds which were painstakingly tested in turn for their toxicity in the animal body and their effectiveness against experimental infection with pneumococci in mice. The outcome of these tests was the compilation of an amazing record of failures and it was not until compound 693 was tested that the feeble flame of hope flared into a steady beacon which has since served to illumine the path of progress. This compound, which bears the formidable name of 2—(p-aminobenzenesulfonamido) pyridine, or sulfapyridine, was first shown by Whitby in 1938 to protect mice against multiple lethal doses of pneumococci and yet was well tolerated by the animals. Naturally, the next step was to try the drug in human cases of pneumonia and there quickly followed the reports of its successful use by Telling and Oliver, Evans and Gaisford, and Dyke and Reid.

Others were quick to take up the study and in this country reports have come from Plummer and Ensworth of the New York Hospital and Bellevue Hospital, MacLeod of the Rockefeller Institute, Sanford of Roosevelt Hospital, Bullowa of New York Hospital, Flippin of the University of Pennsylvania and Wood of the Johns Hopkins Hospital.

Briefly, these reports cover some 600 cases, of all ages, and having infections with all serologic types of the pneumococcus. Thus far no serious immediate or delayed reactions following the treatment have been reported and the results have been truly dramatic, with a mortality rate of approximately 8 per cent.

From the evidence now available it appears that it may not be too much to hope, in the near future, for a method of treatment for lobar pneumonia no more difficult than the administration of an aspirin tablet in a case of common cold.

AMERICAN CONGRESS ON OBSTETRICS AND GYNECOLOGY

In this issue of the Journal, under Committee Contributions, appears a brief announcement of the American Congress on Obstetrics and Gynecology to be held in Cleveland, Ohio, September 11-15, 1939. This Congress is sponsored and directed by the American Committee on Maternal Welfare. While the papers presented will be of scientific, as well as of a practical nature, the Congress is planned for physicians, public health and social workers. From the preliminary program submitted, this meeting holds promise of being of exceptional value and should have the support of every physician interested in the welfare of the mothers and children in his community.

FEDERAL PARTICIPATION IN AN EXPANDED HEALTH PROGRAM

As this issue of the Journal goes to press, announcement is made in the news releases from Washington to the effect that Senator Wagner, of New York, has introduced legislation into the Federal Congress for a much expanded health program which calls for a federal appropriation of \$80,000,000 during the first year of its operation. The release further states that such federal funds will go to states as grants-in-aid, for the purpose of expanding already existing general public health work and maternity and child health, as well as improving and expanding hospital and medical care where needed. While opportunity has not been had, as yet, of scrutinizing the full content of the Act, one might feel justified in inferring, in the absence of specific mention of such provision in the press releases, that the Act does not attempt to incorporate machinery for furnishing universal medical care on a compulsory insurance basis. It will be recalled that the House of Delegates of the American Medical Association at a special called meeting in Chicago in September of last year gave very earnest and careful consideration to the five recommendations which had been submitted by the Technical Committee on Medical Care. The result of these deliberations was that the House gave unanimous approval, *in principle*, to four of these recommendations. To the fifth—dealing with universal compulsory sickness insurance—it spoke, in no unmistakable language, as follows:

"Your Committee is not willing to foster any system of compulsory health insurance. Your Committee is convinced that it is a complicated, bureaucratic system which has no place in a democratic state. It would undoubtedly set up a far-reaching tax system with great increase in the cost of government. That it would lend itself to political control and manipulation there is no doubt."

(Vide Association Forum—October 1938 Journal—page 154, for report of this special session and action of the House of Delegates.)

As stated above, the exact provisions of the Act are not now known. However, one of the very important questions involved in such legislation, at least in so far as the medical profession is concerned, is that of determining the official agency of the state through which such federal grants-in-aid will clear. Such grants thus far made to states—such as those for enhancing preventive health work and for venereal disease control—have made use of official state health departments and with satisfactory results. Despite the obviously increased responsibilities which an expanded hospital and medical care program would place upon state health officials, and despite, too, their inherent disinclination to assume this added load, what group—composed as it is exclusively of medical men—should be more acceptable to the medical profession? Surely the members of this group should have a more comprehensive grasp and a fuller appreciation of the intricacies of medical problems than any group of lay administrators to be found in the several states. It may be added that this phase of the problem has received most careful consideration at the hands both of the Executive Board and Governing Council of the American Public Health Association and that, as a result of their deliberations, the suggestions made in the subjoined recommendations were transmitted to the Technical Committee on Medical Care. Should this prove to be the plan for the distribution of grants-in-aid to states for expanded medical and hospital care, what state of the Union—because of the intimate and happy relations now existing between the medical profession and its health department—will find itself in better position to immediately and effectively make use of such aid?

"RECOMMENDATIONS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION TO THE TECHNICAL COMMITTEE ON MEDICAL CARE"

"1. It is certainly theoretically desirable that a single state agency should be made administra-

tively responsible for carrying out all the provisions of the National Health Program which may be enacted into law.

"In recommending that this single agency should be the state department of health, we recognize that the present patterns in most states do not conform to this proposal, yet we note evidence that organized medicine and many public welfare officials share our opinion that at least ultimately the state health department should be the responsible agency. We believe that there are many affirmative reasons why the state health department is the best agency at the state level for this purpose. No agency will be able so readily or effectively as the health department to provide professionally qualified personnel and be so readily or effectively able to maintain high professional standards of medical care.

"In recommending that the state health department should be the primary integrating and coordinating unit, we recognize that the counsel of qualified advisers from the medical, dental, nursing, hospital and ancillary professions will be requisite, that adequate provisions for technical staffs and administrative expense will have to be made from the outset, and that increased funds for training purposes will be essential for successful performance. We have concluded further that, however reluctant medical health officers may be at present to take over these added responsibilities, a study of the alternative choices for such purposes will be determinative. This basic recommendation does not preclude a working arrangement in some states with existing machinery outside of the official health department which might function well through another channel, provided that the state health officer retains supervisory control over the broad plans and the general purposes of the funds which the state may receive. It is further recommended that in such plans due consideration will be given to the allocation of funds by a state department of health to the various substantial government jurisdictions within a state where population, extent of the special problems or financial need justify.

"We note that this proposal is in accord with the recommendation of the Interdepartmental Committee that this program should be developed around and be based upon existing preventive health services.

"2. The Committee reaffirms and reemphasizes the official declaration of the American Public Health Association that, in the initiation and development of the program, wide latitude should be given to the states in the definition of the population to be served, in the selection of the method of providing medical service, and in other important phases of the proposed program. We believe that similar latitude should be provided with regard to the method of raising funds in the states to accomplish approved objectives.

"3. The Committee finds itself in agreement with the recommendations in the National Health Program that the fundamental objectives involved here are, first, conservation of health and vitality and, second, reduction of the role of sickness as a cause of poverty and dependency. With

this in mind, it supports the concept that Recommendations 1, 2 and 3 of the Interdepartmental Committee (the expansion of public health and maternal and child health services, the expansion of hospital, clinic and other institutional facilities, and the provision of medical care for the medically needy) should have priority in initiation.

"4. We believe that recent experience demonstrates that the Social Security Act provisions for aid to the states for health work provide a suitable framework for the expansion of preventive health services.

"5. We submit that it is essential that any state program to be approved for federal aid should contain adequate provisions for the maintenance of high personnel standards and that payment of such federal aid to state agencies should be withheld when it is found that substandard services are being furnished. Similar policy should obtain with respect to state aid to local areas within a state. The appropriate federal administrative authorities should have power to establish minimum standards through rule and regulation after consultation with competent advisory professional bodies.

"6. Careful study will be necessary to perfect administrative regulations to cover the details concerned with the provision of medical services, so as to assure a high level of quality. We believe that standards of medical practice should not be written into basic law. Federal aid should be conditioned on inclusion within the state plans of adequate safeguards for maintaining appropriate standards.

"7. We believe that the extension and improvement of public health services in general throughout the country requires complete integration of health services of the federal government under one cabinet officer, preferably a Secretary of Health."

The Tuberculin Test—In terminal or overwhelming disease, and shortly following some acute diseases such as measles, a positive tuberculin test is almost absolute proof of the existence of a tuberculous infection. The conclusion to be drawn, therefore, is that every positive reactor is a potential possible victim of tuberculosis. In the differential diagnosis of a case, a negative tuberculin reaction aids greatly in ruling out tuberculosis.

After cleansing the surface of the forearm with alcohol or acetone, 0.1 cc. of the tuberculin is injected intradermally. Immediately following the injection, and at the puncture site, there forms, when the injection is properly made, a small round white elevation or wheel. This soon disappears. The test is then read at the end of 48 hours. A positive reaction consists of an edematous swelling surrounded by a reddened area. There seems to be little or no correlation between the intensity of the reaction and the extent or activity of the lesion in the lung.—*Editorial by Holmes, J. M. A. Georgia, Feb. '39.*

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE CIVIL SERVICE BILL AND ALABAMA'S HEALTH DEPARTMENT

J. N. Baker, M. D.
State Health Officer

Shortly after the convening of the State Legislature, in January 1939, an administration-sponsored Civil Service Bill was introduced. This bill, while carrying many exemptions, particularly of professional groups, included the health department within its scope. When this bill received consideration in the Senate, this body saw fit to exempt the professional and technical personnel of the health department from its provisions. Upon its arrival in the House, these exemptions were removed. Upon being returned to the Senate, the bill as it had emerged from the House without the exemptions was finally passed by a small majority. The exemptions sought had the strong endorsement of the President of the Association, the unanimous approval of the State Board of Censors, and, it is felt, of the vast majority of the members of the Association. One of the arguments frequently heard in favour of including Alabama's health department and one oft repeated in newspaper editorials was to the effect that the United States Public Health Service was under Civil Service regulations. Here are the facts:

The permanent officers of the Public Health Service are commissioned officers just as they are in the Army and Navy; they do not enter via the Civil Service route but through examinations conducted by their own staff. The Public Health Service does employ a certain number of medical men, usually of a temporary status, who are classed as "Acting Assistant Surgeons," as well as certain other professional and semi-professional employees, who are subject to the provisions of Civil Service regulations.

While this matter was under consideration, the State Health Officer released the following statement to the press, which, it is believed, expresses the views, not only of the Board of Censors but of the profession at large throughout the state:

"However distasteful, because of the present rather heated controversy now being waged in the public press, the State Health Officer feels constrained to make the following statement regarding the position of himself, his board and the medical profession relative to the provisions of the Civil Service Bill now on the calendar of the House:

"Serious consideration should rightfully be given to any plan of a 'merit system' bill which, while novel in Alabama polemics, is long overdue. In such consideration, the thoughtful student of government will do well to recall the introductory statement of Thomas Paine in his 'Age of Reason':—

"The most formidable weapon against errors of every kind is reason. I have never used any other and I trust I never shall."

"What, then, is the 'process of reasoning' of the State Health Officer, his board, the medical profession and its health department in this matter which is erroneously being construed as one of apparent antagonism to any form of 'merit system,' which, in truth, they hold to be vital?

"Their present position arises solely from a desire to preserve a basic principle which the Legislature of this state wrote into its health laws more than sixty years ago. Briefly stated this principle is this:

"Public Health being recognised by this legislative body as a highly specialised service, the efficient performance of which demands trained, professional guidance, turned to the medical profession and clothed it with the authority and power necessary to perform this service. By such action and at that time, Alabama's health department was automatically lifted from political interference and control and assured a stability and continuity for service, difficult of attainment in our present form of government. Behind this unique and anomalous health structure has steadfastly stood, throughout the years, a united medical profession, earnestly desirous of rendering a service to our people and so zealously guarding its charge as to invoke the admiration and envy of many another state not so happily circumstanced. The record speaks for itself; and, being, as yet, untarnished by any stains of the 'spoils-system,' might well serve as a pattern for emulation. At this particular juncture in the growth and expansion of this important arm of state government it seems to the State Health Officer, to his board and to the medical profession both unwise and unnecessary to in any wise tamper with a state service whose efficiency and nonpolitical conduct of affairs have not been challenged either within or without the Legislature.

"A cursory perusal of many of the criticisms aimed at the health department in connection with the Civil Service Bill reveals a rather painful lack of familiarity with the fact that the bill now under consideration already includes a number of definite exemptions, particularly in the professional fields. To enumerate but a few:

"(1) The Governor's private secretary, recording secretary and legal adviser, and those employees of the Governor's office paid exclusively out of the Governor's emergency and/or contingent funds.

"(2) All officers and employees of the state's institutions of higher learning, teacher training institutions and normal schools; all officers and employees of all educational, eleemosynary and correctional institutions which are governed and controlled by Boards of Trustees or similar governing bodies, the secondary agricultural schools and vocational schools.

"(3) All inmate help in all the state charitable, penal and correctional institutions.

"The State Health Officer and his board of ten physicians, representing the medical profession of this state, into whose hands, by law, the direction and control of all public health activities have been entrusted, had presented before the Senate what they considered to be sound and cogent reasons for the exemption of the professional and technical personnel of the health department—the most highly specialised and technical of all departments of state. Appreciating the commendable objectives sought to be accomplished by the bill through an increased efficiency output and a stabilisation of tenure of position—principles and practices which have been the dominant factors in the administration of Alabama's health department since its creation by the Legislature in 1875—the health department readily acceded to the inclusion within the scope of the bill of its non-political and non-technical personnel—some sixty in number. The majority of the Senate membership appreciated the justice and importance of this reasoning and saw fit to place the specialised workers of the health department in the same category as many other professional groups specifically mentioned in the exemptions. However, when the bill, carrying this exemption, reached the House, the committee to which it was referred struck out the exemption relating to the health department.

"The efforts now being put forth, and which apparently are being so widely misconstrued, seek solely to restore the exemption written into the bill by the Senate.

"Probably the crowning achievement of legislative wisdom in the creation of a non-political department, designed to serve its people, sustained and bolstered by the strong arm of a learned and honoured profession, is to be seen in Alabama's health department. Such efforts as have been put forth have been motivated solely by a desire to preserve intact this anomalous structure so long as the Legislature, in its wisdom, may see fit to entrust to the medical profession the important task of the protection of the health of its people."

Committee Contributions

Prevention of Cancer

THE PERIODIC EXAMINATION

The general public is becoming more and more conscious of the value of prevention rather than cure. As time goes on more people will be asking for a general physical examination, yearly, in order to be assured that their body is functioning properly. That means that the family doctor or the physician in general practice will be called upon to give these examinations. To be of value to the patient such examinations must be thorough, but, to protect the physician, patients must understand that such examinations require more time than would an office call and naturally the charge will be somewhat higher.

There are a few simple rules which will help the physician in the examination to avoid overlooking any early condition which in itself may not be serious but if allowed to continue may develop serious difficulties. Keeping these things in mind your Committee has formulated the following as suggestions, relative to finding early cancer during the periodic examination:

History:

Especially ask about the following:

1. Persistent indigestion,
2. Change in bowel habits,
3. Blood in stool or urine,
4. Persistent hoarseness of over two weeks duration,
5. Any wart or mole which is growing,
6. Lumps in the breast,
7. Any sore which has not healed within 2-3 weeks,
8. Any discharge from any part of the body, especially the vagina,
9. Any irregularity of the menstrual cycle.

Examination:

1. Patients should be undressed for the examination.
2. Teeth and gums, as well as mucous membranes of the mouth and tongue, should be observed.
3. Breasts should be palpated for tumors.
4. The skin should be examined for warts or moles, especially those in areas where there is danger of irritation or rubbing.
5. A bimanual vaginal examination should be done on every married woman and any other woman who has a vaginal discharge, however slight. The cervix should be observed through the speculum for erosions. When present, these should receive the proper treatment.

6. Rectal examination should be made on all patients.
7. Urinalysis.
8. Stool examination for gross blood.
9. Palpation of abdomen for masses.

Patient should be instructed to return immediately if any of the following occur:

1. Any persistent lump or thickening, especially in the breast.
2. Any irregular bleeding or discharge from any body openings.
3. Any sore that does not heal—particularly about the tongue, mouth, or lips.
4. Persistent indigestion, often accompanied by loss of weight.
5. Sudden changes in the form or rate of growth of a mole or wart.

Women patients should be instructed to palpate their breasts once a month. The left breast being palpated with the right hand and the right one with the left hand when lying down. If any lump is felt she should return to the physician at once.

Maternal and Infant Welfare

AMERICAN CONGRESS ON OBSTETRICS AND GYNECOLOGY

The American Congress on Obstetrics and Gynecology is sponsored by the American Committee on Maternal Welfare. This Committee is composed of member organizations, with a representative from each forming the Board. The member organizations include the various national and sectional obstetric and gynecologic associations, hospital associations, public health organizations, and nursing associations.

The Central Association on Obstetrics and Gynecology proposed an American Congress on Obstetrics and Gynecology to study the present-day problems on obstetrics and gynecology and their solution. The American Committee on Maternal Welfare was asked to sponsor this Congress. The Congress will be held in Cleveland, Ohio, September 11-15, 1939. The Committee expresses the purpose of the Congress: "To present a program of our present-day medical, nursing, and health problems, from a scientific, practical, educational, and economic viewpoint as far as they relate to human reproduction and maternal and neonatal care." This Congress is not in any sense a legislative body and naturally will take no action relative to maternal and infant care.

There will be sessions for each professional group in the morning with round table discussions. The afternoon meetings will have papers of general interest to all members attending the Congress. The public will be invited to the evening sessions where there will be speakers of national prominence.

The program for the physicians will include, among many others, such subjects as pregnancy associated with thyroid disease, heart disease, diabetes, tuberculosis, nutritional factors, carcinoma of the female genital tract, and abortions.

The Congress is not planned as a meeting for specialists in any sense of the word but for all physicians who are interested in the problem of maternal and child welfare. Your Committee highly recommends this Congress as a week of postgraduate work which should be worth much more to the physician than the time and expense incurred for the trip. Alabama physicians should be well represented at this Congress.

The membership fee of \$5.00 includes membership in The American Committee on Maternal Welfare and registration in The American Congress on Obstetrics and Gynecology. Application blanks and further information may be secured from your chairman, Dr. A. E. Thomas, 17 Adams Avenue, Montgomery, Alabama, or from The American Congress on Obstetrics and Gynecology, 650 Rush Street, Chicago, Illinois.

Feeding the Premature—The difficulties encountered in feeding the premature depend partly on the degree of immaturity of his digestive tract and partly on his general lowered vitality. Nothing should be given by mouth for at least sixteen to twenty-four hours after birth, and then only water or 5 per cent lactose solution for the next twelve hours. Not more than one to three teaspoons, depending on the size of the baby, should be offered at first and this repeated every two hours until feedings are begun when the baby is twenty-four to forty-eight hours old. The exact time at which feedings are started, the quantities given and the intervals between feedings will vary according to the size and vitality of the infant. During the first several days especially the maintenance of body fluid is much more important than the giving of food, and this can often be done to better advantage at this period by saline hypodermoclyses than by endeavoring to give large quantities by mouth.—*Stone, Virginia M. Monthly, March '39.*

PROGRAM OF THE ANNUAL SESSION

MONTGOMERY

APRIL 18-19-20, 1939

THE WHITLEY HOTEL

GENERAL INFORMATION

All general sessions of the Association will be in the ballroom of the Whitley Hotel, convention headquarters.

Section meetings will be held at the places indicated in the program.

TIME LIMIT OF PAPERS

The time limit of papers read by members of the Association is fifteen minutes and for visiting speakers twenty minutes. Discussions cannot exceed five minutes. Papers by visiting physicians are not open for discussion.

Rules adopted by the American Medical Association for papers read before scientific sessions set the standard which will be followed at the Montgomery meeting. They are as follows:

(Section 11, Chapter XV of the By-Laws). "No paper shall occupy more than fifteen minutes in its presentation before the section. The time allowed for the presentation of a paper before a section shall be limited to fifteen minutes. The section shall not extend the time for discussion of a paper beyond the time allowed (five minutes) but this time limit shall be mandatory.

"With the exception that the reader of the paper may be permitted to close the discussion, no one shall be permitted to take part in the discussion of a paper but once."

(Section 2, Chapter XVI). "Each author shall hand his paper to the secretary of the section immediately after it is read," shall be amplified and emphasized, and shall be construed to require that each author must present to the secretary of the section a finished copy of his paper before he is permitted to present his contribution to the section.

All papers read before a section shall be read in the order as presented in the official program.

HOST TO THE ASSOCIATION

The Montgomery County Medical Society

COMMITTEES**Arrangements and Exhibits**

J. M. Barnes, Chairman
Harry Glazer B. W. Cobbs

Entertainment

(General)

H. P. Harris, Chairman

F. W. Wilkerson F. D. Reynolds
B. F. Holding W. W. Wilkerson

Entertainment

(Doctors' Wives)

J. A. Martin, Chairman

Mrs. L. L. Hill, Jr. Mrs. B. W. Cobbs
Mrs. J. M. Barnes Mrs. B. F. Jackson
Mrs. Douglas Cannon Mrs. J. A. Martin

OFFICERS OF THE ASSOCIATION**PRESIDENT**

Seale Harris (1939) Birmingham

SENIOR VICE-PRESIDENT**Southeastern Division**

C. P. Hayes (1939) Elba

JUNIOR VICE-PRESIDENTS**Northwestern Division**

M. E. Smith (1940) Parrish

Southwestern Division

A. B. Coxwell (1941) Monroeville

Northeastern Division

R. C. Stewart (1942) Sylacauga

SECRETARY

Douglas L. Cannon (1939) Montgomery

TREASURER

J. U. Ray (1943) Woodstock

THE STATE BOARD OF CENSORS

E. V. Caldwell, Chm. (1940) Huntsville
S. A. Gordon (1940) Marion
J. D. Perdue (1939) Mobile
Lloyd Noland (1939) Birmingham
M. S. Davie (1943) Dothan
F. W. Wilkerson (1943) Montgomery
T. B. Hubbard (1942) Montgomery
W. D. Partlow (1942) Tuscaloosa
K. A. Mayer (1941) Lower Peachtree
M. Y. Dabney (1941) Birmingham

STATE HEALTH OFFICER

J. N. Baker (1940) Montgomery

GUESTS OF THE ASSOCIATION

George T. Pack, M. D.
Surgeon, New York Memorial (Cancer) Hospital,
New York City.

V. P. Sydenstricker, M. D.
Professor of Medicine, University of Georgia,
Augusta, Georgia.

Tinsley Harrison, M. D.
Clinical Professor of Medicine, Vanderbilt
University,
Nashville, Tennessee.

W. H. Anderson, M. D.
Editor, Mississippi Doctor,
Booneville, Mississippi.

G. S. Bryan, M. D.
Ex-President, Mississippi State Medical
Association,
Amory, Mississippi.

Clyde Brooks, M. D.
Professor of Physiology,
Louisiana State University Medical Center,
New Orleans, Louisiana.

Adrian Taylor, M. D.
Director, Clifton Springs Sanitarium,
Clifton Springs, New York.

J. S. Turberville, M. D.
Ex-President, Florida State Medical Association,
Century, Florida.

E. N. DeWitt, M. D.
Assistant Clinical Professor of Ophthalmology,
Yale University,
Bridgeport, Connecticut.

Maxwell E. Lapham, M. D.
Director, Medical Extension, Tulane University,
New Orleans, Louisiana.

A. R. Bliss, Jr., M. D.
Dean, School of Pharmacy,
Howard College,
Birmingham.

PROGRAM

First Day, Tuesday, April 18

Morning Session

WHITLEY HOTEL

1. Call to Order at 9:00 A. M. by the President—
Seale Harris, M. D., Birmingham.
2. Invocation—
Rev. Donald MacGuire, First Presbyterian
Church, Montgomery.
3. Addresses of Welcome—
Hon. W. A. Gunter, Mayor of Montgomery.
J. W. Dennis, M. D., President, Montgomery
County Medical Society.
4. Reports of the Vice-Presidents—
 - (1) C. P. Hayes, M. D., Elba.
 - (2) Merle Smith, M. D., Parrish.
 - (3) A. B. Coxwell, M. D., Monroeville.
 - (4) R. C. Stewart, M. D., Sylacauga.

5. Report of the Secretary—
Douglas L. Cannon, M. D., Montgomery.
6. Report of the Treasurer—
J. U. Ray, M. D., Woodstock.
7. Report of the Committee of Publication—
Fred W. Wilkerson, M. D., Montgomery.
8. Report of Standing Committees—
 - (1) Public Relations—(5 minutes)
John A. Martin, M. D. Chairman, Mont-
gomery.
 - (2) Mental Hygiene—(5 minutes)
Frank A. Kay, M. D., Chairman, Tusca-
loosa.
 - (3) Maternal and Infant Welfare—(5 min-
utes)
A. E. Thomas, M. D., Chairman, Mont-
gomery.
 - (4) Prevention of Cancer—(5 minutes)
J. P. Chapman, M. D. Chairman, Selma.
 - (5) Prevention of Blindness and Deafness
—(5 minutes)
J. T. Cater, M. D., Chairman, Mont-
gomery.
 - (6) Postgraduate Study—
Ralph McBurney, M. D., Chairman,
University (5 minutes)
Maxwell E. Lapham, M. D., Director
Medical Extension—Tulane University,
New Orleans (5 minutes)
 - (7) Fractures and First Aid—(5 minutes)
H. Earle Conwell, M. D., Chairman,
Birmingham.
 - (8) James Marion Sims Memorial—(5
minutes)
James R. Garber, M. D., Chairman,
Birmingham.

10:45 A. M.

9. Message of the President—(15 minutes)
10. Carmichael, E. B.,
University.
Paper: "Charles Alexander Pope, Native Ala-
bamian, President of the American Medical
Association in 1855."—(5 minutes)
11. A. R. Bliss, Jr., M. D.,
Birmingham.
Paper: "A Plea for the Use of Pharmacopeia
and National Formulary Drugs." (15 min-
utes)
12. Symposium on Hospitalization and Medical
Care of the Indigent
 - (1) W. H. Anderson, M. D.,
Booneville, Mississippi.
Paper: "The Community Hospital."
(20 minutes)
 - (2) A. C. Jackson, M. D.,
Jasper.
Paper: "Hospitalization of Alabama's
Indigent Sick." (10 minutes)
 - (3) French H. Craddock, M. D.,
Sylacauga.
Paper: "The Alabama Hospital Plan."
(10 minutes)

- (4) E. L. Gibson, M. D., (10 minutes)
Enterprise, and
J. Paul Jones, M. D., (10 minutes)
Camden.
Paper: "Medical Cooperation with
Farm Security Administration."
Discussion: Opened by C. N. Carra-
way, M. D., Birmingham.
Frank W. Pickell, M. D.,
Brewton.

Afternoon Session

Tuesday, April 18

2:00 P. M.

WHITLEY HOTEL

SECTION ON MEDICINE

Fred Wilkerson, M. D., Montgomery, Chairman
E. M. Mason, M. D., Birmingham, Vice-Chairman
C. R. Bennett, M. D., Eufaula, Secretary

1. W. D. Partlow, M. D.,
Tuscaloosa.
Paper: "Habitual Use of Alcohol in Ala-
bama."
Discussion: E. D. Bondurant, M. D., Mobile.
J. A. Becton, M. D., Birmingham.
2. James Alto Ward, M. D.,
Birmingham.
Paper: "The Pathology of Obesity."
Discussion: H. B. Wilkinson, M. D., Mont-
gomery.
George Kilpatrick, M. D., Mobile.
3. L. W. Roe, M. D.,
Mobile.
Paper: "The Treatment of Nephritis."
Discussion: T. C. Cameron, M. D., Faunsdale.
Harry P. Shugerman, M. D., Bir-
mingham.
4. Cecil D. Gaston, M. D., and Howard B. Wil-
liams, M. D., Birmingham.
Paper: "The Enema: Its Uses and Abuses."
Discussion: J. H. Dodson, M. D., Mobile.
J. E. Linn, M. D., Birmingham.
5. Harry M. Simpson, M. D.,
Florence, Alabama.
Paper: "The Importance of Early X-Ray
Diagnosis in Gastro-Intestinal Diseases."
Discussion: F. P. Boswell, M. D., Montgomery.
K. F. Kesmodel, M. D., Birming-
ham.
6. Andrew L. Glaze, M. D.,
Birmingham.
Paper: "The Prophylaxis of Acne Vulgaris."
Discussion: Toulmin Gaines, M. D., Mobile.
Charles O. King, M. D., Birming-
ham.
7. T. K. Lewis, M. D.,
Birmingham.
Paper: "Coronary Thrombosis." (Motion
Picture)

Afternoon Session

Tuesday, April 18

2:00 P. M.

HOTEL JEFFERSON DAVIS BALLROOM

SECTION ON SURGERY

Lloyd Noland, M. D., Birmingham, Chairman
T. B. Hubbard, M. D., Montgomery,
Vice-Chairman
H. D. Greer, M. D., Decatur, Secretary

1. Paul W. Shannon, M. D.,
Birmingham.
Paper: "Chronic Back Pain."
Discussion: John H. Sherrill, M. D., Birming-
ham.
Ralph S. Terhune, M. D., Bir-
mingham.
2. Marcus Skinner, M. D., and J. P. Chapman,
M. D.,
Selma.
Paper: "The Diagnosis and Treatment of
Peptic Ulcer From the Medical and Surgical
Points of View."
Discussion: Ivan Berrey, M. D., Birmingham.
J. O. Lisenby, M. D., Atmore.
3. Earle Drennen, M. D.,
Birmingham.
Paper: "Cancer of the Colon and Rectum with
Report of Cases."
Discussion: W. R. Meeker, M. D., Mobile.
John Blue, M. D., Montgomery.
4. J. S. Turberville, M. D.,
Century, Florida.
Paper: "Prostatic Diseases from the Stand-
point of the General Surgeon."
5. Walter Scott, M. D.,
Birmingham.
Paper: "Conclusions After Seven Years of
Prostatic Resections."
Discussion: J. U. Reaves, M. D., Mobile.
W. A. Sellers, M. D., Montgomery.
6. J. O. Finney, M. D., and J. O. Morgan, M. D.,
Gadsden.
Paper: "Acute Purulent Pericarditis: Case
Report." (Motion Picture)
Discussion: Henry R. Carter, M. D., Birming-
ham.
7. "Brief Review of Successful Operation on the
Heart Performed by Dr. L. L. Hill, Mont-
gomery, in 1894."
8. Adrian Taylor, M. D.,
Clifton Springs, N. Y.
Paper: "Clinical Aspects of Thyroid Disease."

Evening Session

Tuesday, April 18

8:00 P. M.

WHITLEY HOTEL

SECTION ON GYNECOLOGY AND OBSTETRICS

M. S. Davie, M. D., Dothan, Chairman
M. Y. Dabney, M. D., Birmingham, Vice-Chairman
H. B. Dowling, Jr., M. D., Mobile, Secretary

1. Jerre Watson, M. D.,
Anniston.
Paper: "Obstetrics in Relation to Maternal Morbidity."
Discussion: K. A. Mayer, M. D., Lower Peach-tree.
J. L. Seibold, M. D., Birmingham.
2. Gilbert Douglas, M. D.,
Birmingham.
Paper: "Gynecology and Endocrines: Day of J. Marion Sims and Now." (Slides)
Discussion: E. D. McAdory, Cullman.
J. L. Carmichael, M. D., Birmingham.
3. W. W. Harper, M. D., and W. F. Harper, M. D.,
Selma.
Paper: "Pyuria: Its Significance and Treatment."
Discussion: Merle Smith, M. D., Parrish.
S. W. Collier, M. D., Birmingham.
4. L. F. Turlington, M. D.,
Birmingham.
Paper: "Abnormal Uterine Bleeding."
Discussion: A. W. Ralls, M. D., Gadsden.
R. S. Hill, M. D., Montgomery.

Evening Session

Tuesday, April 18

8:00 P. M.

HOTEL JEFFERSON DAVIS BALLROOM

SECTION ON PEDIATRICS

- Stewart Welch, M. D., Birmingham, Chairman
H. G. Mulherin, M. D., Mobile, Vice-Chairman
William Britton, M. D., Montgomery, Secretary
1. David B. Monsky, M. D.,
Montgomery.
Paper: "Mediastinal Tumors in Children: Report of Case."
Discussion: James F. Alison, M. D., Selma.
George S. Graham, M. D., Birmingham.
 2. Charles Abbott, M. D.,
Tuscaloosa.
Paper: "The Dietary Schedule Up To One Year."
Discussion: Vaun Adams, M. D., Mobile.
B. T. Bristow, M. D., Bessemer.
 3. A. C. Gipson, M. D.,
Gadsden.
Paper: "Diagnosis and Treatment of So-Called Three Months' Colic."
Discussion: N. B. Cannady, M. D., Dothan.
Clifford Lamar, M. D., Birmingham.
 4. J. H. Baumhauer, M. D.,
Mobile.
Paper: "The Management of Acute Gastro-Intestinal Intoxication in Infancy and Childhood."
Discussion: J. C. Gladney, M. D., Jasper.
J. V. Howell, M. D., Marion.

5. Hughes Kennedy, M. D., and J. Samuel Smith, M. D.,
Birmingham.
Paper: "Sulfapyridine: Its Use in Pneumococic Infection—A Preliminary Report."
Discussion: Wallace Clyde, M. D., Fairfield.
A. A. Walker, M. D., Birmingham.

Morning Session

Wednesday, April 19

8:30 A. M.

WHITLEY HOTEL

SECTION ON PUBLIC HEALTH

- E. V. Caldwell, M. D., Huntsville, Chairman
Judson Dowling, M. D., Birmingham,
Vice-Chairman
J. L. Bowman, M. D., Montgomery, Secretary
1. W. H. Y. Smith, M. D.—(10 minutes)
Montgomery.
Paper: "Public Health Problems Encountered in Handling Syphilis."
 2. Clarence K. Weil, M. D.—(10 minutes)
Montgomery.
Paper: "Syphilis in Private Practice—A Report of Cases Illustrating Some Problems of Management."
 3. Charles R. Lafferty, M. D.—(10 minutes)
Montgomery.
Paper: "Syphilis in Private Practice—A Differential Diagnosis of Genital Lesions."
Discussion: Ralph McBurney, M. D., University.
Merle Smith, M. D., Parrish.
 4. R. E. Harper, M. D.—(15 minutes)
Tuscumbia.
Paper: "Tuberculosis Control Activities in a North Alabama County."
Discussion: Alfred G. Rice, M. D., Decatur.
O. L. Chason, M. D., Mobile.
 5. J. N. Baker, M. D., State Health Officer—
(10 minutes).
Montgomery.
Remarks: "Public Health Needs in Alabama."
 6. G. S. Bryan, M. D.—(20 minutes)
Amory, Mississippi.
Paper: "Reducing the Pneumonia Death Rate."

10:45—Adjourn

for

General Session

The Jerome Cochran Lecture

Morning Session**Wednesday, April 19**

8:30 A. M.

HOTEL JEFFERSON DAVIS BALLROOM

SECTION ON EYE, EAR, NOSE AND THROAT

C. A. Thigpen, M. D., Montgomery, Chairman
 W. G. Harrison, M. D., Birmingham,
 Vice-Chairman
 N. E. Miles, M. D., Birmingham, Secretary

1. H. B. Searcy, M. D., and R. M. Clements, M. D., Tuscaloosa.
 Paper: "The Use of Vitamines in Eye, Ear, Nose and Throat Work."
 Discussion: J. S. Blackmar, M. D., Columbus, Georgia.
 L. T. Kincannon, M. D., Birmingham.
2. J. H. Farrior, M. D., Montgomery.
 Paper: "Five Year End Results of Treatment in Intra-Oral Cancer."
 Discussion: J. D. Perdue, M. D., Mobile.
 H. F. Martin, M. D., Birmingham.
3. E. W. Rucker, M. D., Birmingham.
 Paper: "Hoarseness."
 Discussion: T. F. Wickliffe, M. D., Jasper.
 Travis P. McGahey, M. D., Birmingham.
4. E. N. DeWitt, M. D., Bridgeport, Conn.
 Paper: "Intra-Ocular Tumors."

10:45—Adjourn
 for

General Session

The Jerome Cochran Lecture

Wednesday, April 19

11:00 A. M.

GENERAL MORNING SESSION

WHITLEY HOTEL

1. George T. Pack, M. D., Attending Surgeon, Memorial (Cancer) Hospital, New York City.
Jerome Cochran Lecture: "Recent Advances in the Radiation Therapy of Cancer."
2. Tinsley R. Harrison, M. D., Professor of Clinical Medicine, Vanderbilt University Hospital, Nashville, Tennessee.
 Address: "The Therapeutic Approach to High Blood Pressure."
3. V. P. Sydenstricker, M. D., Professor of Medicine, University of Georgia, Augusta, Georgia.
 Address: "The Changing Concepts of Deficiency Diseases."

Wednesday, April 19

2:00 P. M.

AFTERNOON GENERAL SESSION

WHITLEY HOTEL

1. Clyde Brooks, M. D., Professor of Physiology, Louisiana State University Medical Center, New Orleans, Louisiana.
 Paper: "Blood Sedimentation."
 2. Marion T. Davidson, M. D., Birmingham.
 Paper: "The Prevention and Treatment of Allergy."
 Discussion: George H. Fonde', M. D., Mobile.
 T. C. Cameron, M. D., Faunsdale.
 3. John W. Boggess, Jr., M. D., Montgomery.
 Paper: "The Relation of Hyperinsulinism to Allergy."
 4. G. O. Segrest, M. D., and J. E. Beck, M. D., Mobile.
 Paper: "Report of a Case of Hyperinsulinism Cured by Removal of an Islet Cell Adenoma."
 Discussion: W. W. Harper, M. D., Selma.
 Harold Simon, M. D., Birmingham.
 5. J. M. Mason, M. D., Birmingham.
 Paper: "A Review of Progress in the Treatment of Empyema Thoracis."
 Discussion: F. G. DuBose, M. D., Maplesville.
 Robert H. Hamrick, M. D., Birmingham.
 6. James B. McLester, M. D., Birmingham.
 Paper: "Pellagra and Its Modern Treatment with Special Emphasis on the Borderline States."
 Discussion: E. L. McCafferty, M. D., Mount Vernon, Alabama.
 W. D. Partlow, M. D., Tuscaloosa.
- Adjourn at 4:15 P. M. to attend unveiling of the Sims Monument.

CAPITOL GROUNDS

4:30 P. M.

UNVEILING OF THE STATUE TO
JAMES MARION SIMS

James R. Garber, M. D., Chairman of the Sims Monument Committee, Presiding.

ADDRESS: James Marion Sims, "The Father of Modern Gynecology."

By M. Y. Dabney, M. D., Birmingham.

ADDRESS: James Marion Sims, "Benefactor of Mankind."

By Mrs. Marie Bankhead Owens, Director, Department of Archives and History of the State of Alabama, Montgomery.

ADDRESS: Acceptance of the Sims Monument for the State of Alabama.

By Honorable Frank M. Dixon, Governor of Alabama.

Wednesday Evening, April 19

PUBLIC SESSION

Call to Order Promptly at 8:00 P. M.

MEDICAL EDUCATION IN ALABAMA

1. "Reminiscences of Medical Teaching Seventy Years Ago."—(5 minutes)
By C. C. Jones, M. D., the oldest living member, and Ex-President (1904) of the Medical Association of the State of Alabama.
2. "Alabama's Heritage from the Medical College of Alabama, The Medical Department of the University of Alabama, Mobile, from 1859 to 1920."—(15 minutes)
By Toulmin Gaines, M. D., Mobile.
3. "History of the Founding of Birmingham Medical College."—(15 minutes)
By Dyer F. Talley, M. D., Birmingham.
4. "The Need for a Four-Year Medical School in Alabama."—(15 minutes)
By Stuart Graves, M. D., Dean of the Medical Department of the University of Alabama, Tuscaloosa.
Vocal Solo: "How Do You Do, Doctor, How Do You Do."
By Mrs. Lennard Thomas, Montgomery.
5. "The University of Alabama and Medical Education."—(5 minutes)
By Richard Foster, LL. D., President of the University of Alabama, Tuscaloosa.
6. "Postgraduate Medical Instruction in Alabama."—(5 minutes)
By James S. McLester, M. D., Professor of Medicine, University of Alabama, Birmingham.
7. "Legislation Providing for a Four-Year Medical School."—(5 minutes)
By W. D. Partlow, M. D., Chairman, Alumni Committee on a Four-Year Medical School, Tuscaloosa.
8. "Alabama's Duty to Provide for a Four-Year Medical School."—(5 minutes)
By Honorable A. A. Carmichael, Lieutenant Governor of Alabama, Montgomery.

Last Day, Thursday, April 20

WHITLEY HOTEL

Call to Order 8:30 A. M.

FINAL SESSION

1. F. L. Chenault, M. D.,
Decatur.
Paper: "Sepsis—The Doctor's Number One Problem."
Discussion: R. B. Dodson, M. D., Cullman.
V. L. Ashcraft, M. D., Reform.
2. J. Harold Watkins, M. D.,
Montgomery.
Paper: "The Prevention and Treatment of the Complications of Diabetes."
Discussion: Carl Grote, M. D., Huntsville.
Arthur Mazyck, M. D., Dothan.

3. J. M. Donald, M. D.,
Birmingham.
Paper: "Post-Operative Abdominal Wounds."
Discussion: J. L. Branch, M. D., Montgomery.
S. A. Kahn, M. D., Birmingham.
4. Dan T. McCall, M. D.,
Mobile.
Paper: "The Doctor in Politics."
5. 10:30 A. M. Business Meeting of the Association Sitting as the Board of Health of the State of Alabama.
(1) Report of the Board of Censors.
(2) Revision of the Rolls.
(3) Election and Installation of Officers.
Adjournment.

PROGRAM

**FOURTEENTH ANNUAL MEETING
WOMAN'S AUXILIARY**

TO

THE MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA

WHITLEY HOTEL, MONTGOMERY

APRIL 18, 19, 1939

OFFICERS

President

Mrs. W. M. Salter Anniston

President-Elect

Mrs. J. U. Reaves Mobile

Vice-Presidents

Mrs. N. T. Davie Anniston
Mrs. J. R. Chandler Bessemer
Mrs. S. P. Wainwright Birmingham
Mrs. O. R. Grimes Gadsden

Corresponding Secretary

Mrs. Jerre Watson Anniston

Recording Secretary

Mrs. F. C. Smith Bessemer

Treasurer

Mrs. B. B. Sims Talladega

Auditor

Mrs. Hal Cleveland Anniston

Advisory Committee

Dr. Seale Harris, Sr. Birmingham
Dr. E. M. Norton Fairfield
Dr. N. T. Davie Anniston

Tuesday, April 18th, 1939

3:00 P.M.

Annual Executive Board Meeting, Whitley Hotel,
Mrs. W. M. Salter, Chairman, presiding.

Wednesday, April 19th, 1939

9:30 A.M.

Registration, Whitley Hotel.

10:00 A.M.

Convention called to order: Mrs. W. M. Salter,
presiding.

Invocation.

Reading and approving of minutes.

Report of Credentials Committee.

Report of Program Committee.

Annual Reports of Officers:

President-Elect—

Mrs. J. U. Reaves, Mobile

First Vice-President—

Mrs. N. T. Davie, Anniston

Second Vice-President—

Mrs. J. R. Chandler, Bessemer

Third Vice-President—

Mrs. S. P. Wainwright, Birmingham

Fourth Vice-President—

Mrs. O. R. Grimes, Gadsden

Recording Secretary—

Mrs. F. C. Smith, Bessemer

Corresponding Secretary—

Mrs. Jerre Watson, Anniston

Treasurer—

Mrs. B. B. Sims, Talladega

Historian—

Mrs. Geo. Cryer, Anniston

Archives—

Mrs. Wade Brannon, Anniston

Auditor—

Mrs. Hal Cleveland, Anniston

President—

Mrs. W. M. Salter, Anniston

Annual Reports of Standing Committees:

Programs—

Mrs. C. L. Salter, Talladega

Public Relations—

Mrs. A. C. Gipson, Gadsden

Press and Publicity—

Mrs. T. F. Huey, Anniston

Hygeia—

Mrs. H. R. Cogburn, Mobile

Lettie Daffin Perdue Fund—

Mrs. E. S. Sledge, Mobile

Revisions—

Mrs. E. M. Norton, Fairfield

Jane Todd Crawford Memorial—

Mrs. E. V. Caldwell, Huntsville

Research and Romance of Medicine—

Mrs. A. M. Chilton, Anniston

Annual Reports of County Auxiliaries:

1. Bessemer, Jefferson County—

Mrs. F. C. Smith, President

2. Birmingham, Jefferson County—

Mrs. S. P. Wainwright, President

3. Gadsden, Etowah County—

Mrs. J. C. Finney, President

4. Anniston, Calhoun County—

Mrs. N. T. Davie, President

5. Huntsville, Madison County—

Mrs. T. E. Dilworth, President

6. Mobile, Mobile County—

Mrs. R. V. Taylor, Jr., President

7. Talladega, Talladega County—

Mrs. C. L. Salter, President

Annual Election of Officers.

Adjournment.

LUNCHEON

Whitley Hotel

1:00 P.M.—Guest Speaker: Dr. George Pack,
New York.

Wives of all physicians invited.

DEPARTMENT OF PUBLIC HEALTH**BUREAU OF ADMINISTRATION**

J. N. Baker, M. D.

State Health Officer in Charge

**1938 ANNUAL REPORT OF COFFEE COUNTY
HEALTH ASSOCIATION**

Medical care was provided last year to 1,653 persons comprising 307 families by the Coffee County Health Association, according to the Association's annual report, which was recently prepared for distribution to members and others. The sum of \$8,334 was paid into the Association's treasury in the form of membership dues, while bills incurred in providing the above-mentioned medical care totaled \$9,868.78.

Doctors cooperating with the Association made a total of 918 visits to the homes of the members during the year, while 1,717 visits were made by Association members to the offices of these physicians. Seventy-eight persons received hospitalization or surgical care, or both.

Stomach and bowel ailments topped the list of illnesses treated by the Association's physicians on the basis of the number of cases treated, 386 cases having been included under this classification. Colds and influenza, with 213 cases, ranked in second place, and kidney and bladder ailments, with 138 cases, in third place. Other frequent and important forms of illness were inflamed

tonsils, 65; malaria, 134; rheumatism and muscular ailments, 109; pellagra, 21; Brill's disease, 4; and hookworm, 16.

The report included the following summary of hospitalization and surgery during the year:

Circumcisions, 2; cesareans, 2; carbuncle, 1; appendectomies, 10; fistula, 1; hysterectomies, 2; breast amputation, 1; laparotomy, 1; cysts, 2; dysmenorrhea, 1; foot infection, 1; hemorrhoidectomy, 1; abscesses, 2; minor surgery (auto accident), 3; osteomyelitis, 1; tonsillectomies, 40; empyema, 1; days of hospitalization, 257; anesthetics, 60; x-rays, 3; special laboratory, 2; operating room, 65.

"The County Health Department, operating under the supervision of the County Health Officer and three health nurses, has been very active and cooperative throughout the year," the report declares. "Over 400 hookworm treatments were given to our membership during the time physical examinations were given the members. Part of this preventive work that has been done by the health department has been 5,208 typhoid inoculations, 1,256 injections of diphtheria toxoid, 900 smallpox vaccinations, 4,719 venereal disease clinic visits, and 5,143 x-ray and chest clinics for the tuberculous, the latter being accomplished by coordinating with a federal tuberculosis survey of Coffee County. The work of the County Health Department is county-wide and is available to our members."

The following "General Summary of the Coffee County Health Association" was also included in the report:

"Composed of 307 families, 1,653 persons—average per family 5.4. Average dues of \$27.15 per year per family, \$32.14 average bills incurred per year per family; \$23.63 average yearly medical bills per family, for a \$1.12 per month average. Average medical bills of \$4.39 per year per person, for \$37 monthly average. For hospital and surgery services, yearly average per family, \$8.51, average per person, \$1.58, monthly average per family, \$.71, monthly average per person, \$.16. Average yearly administrative expense per family, \$1.11, or an average per year per person of \$.20."

"Pneumonia has a higher mortality rate than any other one of the infectious diseases, and this has been increasing year by year. Its mortality rate is exceeded only by two other conditions, heart diseases and accidents."

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

JANUARY 1939

Examination for diphtheria bacilli and Vincent's	1,303
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	419
Typhoid cultures (blood, feces, urine)	571
Examinations for malaria	2,364
Examinations for intestinal parasites	4,474
Serologic tests for syphilis (blood and spinal fluid)	15,746
Darkfield examinations	43
Examinations for gonococci	1,505
Examinations for tubercle bacilli	1,376
Examinations for Negri bodies (microscopic)	85
Water examinations (bacteriologic)	736
Milk examinations	1,956
Pneumococcus typing	83
Miscellaneous	1,714
Total specimens	32,375

CHANGES IN PROCEDURE

It has always been the policy of the Bureau of Laboratories to adopt new procedures which offer material advantages in reliability and accuracy. The Central Laboratory gives serious consideration to the many new laboratory procedures which make their appearance from time to time.

Those procedures that offer apparent advantages over methods in use are tested under field conditions and their advantages, disadvantages and practicality carefully weighed against those of the older method. New procedures which pass the above test satisfactorily are adopted.

For the past several months the Central Laboratory has been working with a new enrichment medium for typhoid in conjunction with a new plating medium for the isolation of enteric organisms. A more satisfactory preservative for use in the transmission of specimens to the laboratory has also been considered. Recently, the new enrichment medium (selenite F),¹ the new plating medium (desoxycholate citrate agar)² and a more satisfactory preservative medium (10% bile) have been substituted for lithium chloride bile and lithium chloride glycerin and Endo agar. The combination of selenite F and desoxycholate citrate in the isolation

1. Leifson, E.: Am. J. Hyg. 24: 423, 1936.

2. Leifson, E.: J. Path. & Bact. 40: 581-599, 1935.

of typhoid and related organisms has been reported favorably by Hajna and Perry³ and others. In our hands direct comparison of selenite F-desoxycholate citrate with lithium chloride bile-Endo has shown the superiority of the selenite F-desoxycholate citrate.

For the collection and preservation of specimens of blood, feces and urine, 10% bile has been substituted for the lithium chloride bile and lithium chloride glycerin formerly used. Specimen containers for typhoid are now being sent with 10% bile only, this one preservative being effective in the preservation of all three types of specimens for typhoid (blood, feces and urine). Specimens of blood, feces and urine are to be placed in the new preservative medium in the same manner and amount as formerly.

Silver nitrate ampules have been found in certain county health offices, in certain midwives' bags, and in a few physicians' offices long after the silver nitrate in these ampules has dissociated to such a degree as to make the solution dangerous for use. To eliminate possibilities of error in this respect a card bearing an expiration date of three months after preparation is being placed in each package of ampules. *Silver nitrate solution should not be used under any circumstances beyond this expiration date.*

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

WHOOPING COUGH

Whooping cough is one of the communicable diseases that has always been difficult to control. It has a world-wide distribution and is endemic almost everywhere. Epidemics which vary in their extent, virulence and mortality also occur. There is a fairly definite seasonal trend of the disease with the early spring months usually showing the peak incidence. In Alabama, during the past ten years, April has contributed the largest number of cases, although the peak has varied from February to June.

As a killer of young children, whooping cough ranks above other communicable diseases such as diphtheria, scarlet fever and measles, and is particularly dangerous to the

infant under one year of age. The mortality steadily drops with increasing age so that it is a relatively minor cause of death in the school age child. It is estimated that 97% of the whooping cough deaths occur in the age group, five and under.

Naturally attempts have been made to find a means of prevention and in recent years the use of whooping cough vaccine has become rather widespread. Madsen, of Denmark, has been one of the leaders in this work and has reported very excellent results. Sauer, Kendrick and Eldering, and others have also conducted exhaustive studies and have reported favorably. On the other hand, Doull and his co-workers, in Cleveland, were unable to confirm these findings in a study conducted by them.

There is still some disagreement as to the best dosage of vaccine when it is used. From 5 to 10 cc. of a 10,000 million vaccine is probably necessary. Sauer recommends a total of 8 cc. given in 3 doses, while others recommend 4 or more inoculations of lesser amounts. The question of reactions will probably determine the amount to be given in any particular dose and similarly the interval between injections can be varied with the individual child. Infants usually have less reaction than older children and since the death rate is highest in the first year of life the vaccine, if used, should be given about the sixth month.

BISMUTH

In giving any drug by the intramuscular route the upper outer quadrant of the buttock should be used. This quadrant does not have the great nerve and blood vessels traversing it, so that injections in this site are less fraught with danger than when given in any other area.

Intramuscular injections should be given into the belly of the muscles in this quadrant. If the injections are too superficial or too deep, pain and hard knots may result. Before any intramuscular substance is injected it is well to make sure that a blood vessel has not been penetrated. This may be shown by pulling back on the plunger and watching for blood in the syringe. The ideal method of giving intramuscular injections is to insert the needle without the syringe. If blood does not flow out, then attach the syringe, draw back the plunger as above and if no

3. Hajna, A. A. and Perry, C. A.: J. Lab. & Clin. Med. 23: 1185-1193, 1938.

blood appears, inject the drug. To prevent leakage back along the track of the needles, 1 to 2 cc. of air may be given. This will tend to reduce pain too, since some of the pain from intramuscular therapy results from the leakage along the needle track. Finally, massage of the injected area spreads the drug in the tissues reducing the ensuing pain and preventing, to a major degree, the development of hard knots.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

MAY DAY

CHILD HEALTH DAY

The Children's Bureau of the United States Department of Labor sponsors Child Health Day activities on May 1st each year in response to a request of the State and Provincial Health Authorities of North America. This program is in accordance with the Congressional Resolution of May 18, 1928, which authorized the President to proclaim May Day as Child Health Day.

The slogan for 1939 is "The health of the child is the power of the Nation." The objective is to bring to the attention of each community (1) the importance to the child's health, development and well-being throughout life, of proper food, rest, exercise, medical care and protection against disease; (2) the ways of informing parents and others how child health may be safeguarded; and (3) the means whereby such safeguards may be made available for all children.

State health, education and welfare departments cooperate in deciding upon the Child Health Day emphasis that will best contribute toward strengthening the year-round child health program. Materials with suggested activities are sent to county health, education and welfare departments with the request that the various local groups interested in child health, education and welfare plan details of how the day will be observed. Community groups arrange for the presentation to the public of the child health needs in the community and plans of interested persons for joint efforts in advancing child health during the year and for launching new child health projects. School children, as a climax to the year's health-education program, show by exhibit, demonstration, programs and plays what they

have learned about safeguarding their own and the community's health, and celebrate in festivals and games progress made during the year.

The place of the physician is an important one in the promotion of this splendid program. There is no one who is better equipped by training and experience than the physician to inform parents and others how child health may be safeguarded. He also should be the person who is best qualified to advise regarding the importance to the child's health, development and well-being throughout life, of proper food, rest, exercise, medical care and protection against disease.

There are many ways by which the family physician can and should contribute a valuable part to the child health program, not only through cooperation with others in promoting activities connected with May Day—Child Health Day but throughout the year in his everyday practice. More attention is constantly being directed to the value of periodic medical examinations. The physician who makes these with a degree of efficiency comparable to that which the intelligent layman expects will be rendering a worthwhile service to the childhood of Alabama.

Laymen are learning more and more to value the effects of proper food, rest, exercise, medical care and protection against disease on the health of children. They are at the same time growing to rely more upon the advice of the medical profession in matters pertaining to the health of their children. The physician then is becoming a more valued counsellor in all questions that have to do with child health. He, therefore, occupies a vital place in the activities incident to May Day—Child Health Day.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

PROVISIONAL VITAL STATISTICS REPORT, 1938

The statistics herewith presented are provisional figures and therefore subject to correction when the final tabulations are made. In making comparisons this fact should be borne in mind.

Births:—In 1938 there were 62,945 births. The rate (21.6 per 1,000 population) was higher than that of the two preceding years.

In comparison with the United States, as a whole, our birth rate is high. The provisional birth rate for the U. S. Registration Area in 1937, the last year of record, was 17.0.

Stillbirths:—The stillbirth rate (41.0 per 1,000 total births) while slightly higher than the record rate for 1937 was the second lowest of record since 1922.

Deaths:—There were 30,237 deaths in Alabama in 1938. The death rate (10.4 per 1,000 population) was less than that for the preceding two years and was lower than the provisional figure (11.2) for the U. S. Registration Area for 1937.

Infant Mortality:—Deaths of infants under one year numbered 3,828; the death rate (60.8 per 1,000 live births) was the second lowest of record and continues the general downward trend of mortality in this age group. However, the rate for this age group remains higher than the rate for the U. S. Registration Area, which was 54.4 in 1937.

Deaths from Childhood Diseases:—The picture presented in 1938 from this group of diseases was, in general, an unfavourable one. The rates for whooping cough (5.8 per 100,000 population) and from poliomyelitis (0.6) were lower than those recorded in the previous year. The diphtheria rate (3.6) while showing a slight increase over the all-time low rate of 1937 (3.4) was the second lowest of record. On the other hand, the rate for measles (5.8) has been higher only once during the past seven years. Scarlet fever with a rate of 0.6 showed an increase over the three preceding years. Deaths from diarrhea and enteritis, under 2 years, increased between 2 and 3 per 100,000 population over the 1937 figure.

Deaths from Other Important Causes:—The rate from tuberculosis, all forms, (55.1) reached an all-time low. Typhoid, with a rate of 2.0 per 100,000 population, while higher than the rate for 1937, was the second lowest of record; the malaria rate (7.6) was the same as that for 1937, the second lowest of record. The rates for influenza (25.7), nephritis (76.7) and homicide (17.0) were the lowest since Alabama was admitted to the U. S. Death Registration Area in 1925. Since that time, the death rate from appendicitis (10.1) has been lower only once. Although the rate for all puerperal causes (59.1 per 10,000 total births) was above that of the preceding year it was the third lowest of record. The rates for cancer (57.1), syphilis

(16.4), suicide (7.4), bronchitis (2.0), pneumonia (75.9) and motor vehicle deaths (20.3) were lower than they have been in several years.

On the other side of the picture, the rates for diseases of the heart (166.6) and cerebral hemorrhage (76.9) reached an all-time high; that for diabetes (12.0) was the second highest of record. There were more deaths from pellagra per 100,000 population (11.9) than there have been since 1933.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

ALABAMA'S MALARIA PROBLEM

As is well recognized, malaria is not uniformly distributed in Alabama or in any county. Based on reports, the average yearly death rate per 100,000 population for the period 1920-1935 inclusive for the state from malaria was 10.3. Only one county had a rate in excess of 40, three had rates between 25 and 40, and 17 had rates between 10 and 25. The remaining 36 counties had rates less than 10. There are certain sections of most every county where no malaria transmission occurs; whereas, there may be other areas where this disease is most severe. In general, there are three trends of thought in reference to the solution of our malaria problem: (1) the magnitude of the task of controlling the disease over a large area often discourages the people into thinking nothing can be done; (2) many people consider there is no problem possibly because of a lack of information concerning their surroundings; and (3) the more constructive thinkers believe that where there is malaria some form of preventive measure can be applied. Fortunately, most of the people are accepting the third thought.

Activities directed at the malaria problem have been in progress for a number of years. At the beginning many municipalities had suitable areas for the production of anopheline mosquitoes. Most of the breeding areas in and near thickly-populated communities have been drained, and there is little malaria transmission believed to be occurring in these places. Drainage has been promoted in the rural areas for a number of years. This was greatly increased during the Civil Works Administration program, and much has been

accomplished under the succeeding federal programs for employment. However, many factors have had to be considered in the operation of the projects.

In order that the activities directed at the malaria problem may be most effective as far as conditions permit, an analysis of the problem is essential. The more detailed this study, the better it will be. However, the time available for the study and seriousness of the problem will govern the scope of the study. The ideal would be a complete survey of each county of the malaria incidence, anopheline breeding, and ponded areas whereby an estimate of the cost of abatement could be made. Following this each area and watershed unit could be rated on the basis of benefits expected. Comprehensive studies are now being made in nine Alabama counties by extra personnel provided for in the budgets. These workers have had special training. Where it is not possible to provide this additional personnel or where it is necessary to have data for immediate planning, less comprehensive studies can be made by the personnel of the county health department.

As a beginning, a map for spotting the cases of malaria reported by the doctors should be provided. Then at the end of each month the reported cases should be spotted on this map as accurately as possible. Cooperation of the physicians is needed. In some counties it has been the practice to visit each physician once monthly and obtain his assistance in accurately spotting on the map the new cases of malaria he has seen in the preceding month. Over a period of a year or longer the data showing location of cases will in general indicate the incidence by locality, and some areas will be without dots whereas others will have various numbers.

When the general locations where the malaria problem is greatest are known, more complete studies can be made. These may consist of malaria survey by blood examination, spleen, or history. Investigation of mosquito breeding should also be made. When it is established that there is a malaria problem in a given area, an engineering study from which the cost of drainage can be estimated should be made. This should include a line of levels on the proposed ditch, an estimate of the area normally flooded, an estimate of drainage area, and the location of the proposed ditch. A plan and profile

with the ditch design should be prepared. The final record on a given area should include population affected, number of cases of malaria by year for at least two years, length of ditch needed, area of flooded land to be drained, area of drainage area, cubic yards of excavation, and estimated cost.

In localities where the cost of drainage is great, consideration might be given to application of secondary control measures; namely, mosquito-proofing, treatment, insecticides, and larvicides.

It should be recognized that more specific information on our malaria problem is needed in order that sound planning can be done. Although the solution may not be possible in one, ten, or twenty years, it is believed that the labor furnished by the federal government would have been more effective if more complete data had been available. There are many examples in the state where preliminary surveys were made several years before the ditches were excavated. A beginning is needed, followed with a continued effort.

F. B. W.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Dec. 1938	Estimated Expectancy	
		Jan. 1939	Jan. 1939
Typhoid	14	10	16
Typhus	39	22	11
Malaria	140	63	65
Smallpox	0	1	12
Measles	232	434	80
Scarlet fever	135	69	101
Whooping cough	199	129	121
Diphtheria	130	42	102
Influenza	532	706	1180
Mumps	43	86	127
Poliomyelitis	10	2	3
Encephalitis	0	1	2
Chickenpox	158	314	313
Tetanus	2	3	3
Tuberculosis	176	201	230
Pellagra	14	12	13
Meningitis	14	11	10
Pneumonia	376	558	605
Syphilis	1675	984	159
Chancroid	3	4	6
Gonorrhea	291	250	154
Ophthalmia neonatorum	0	1	1
Trachoma	0	0	0
Tularemia	0	2	2
Undulant fever	3	2	1
Dengue	0	0	0
Amebic dysentery	0	0	0
Rabies—Human cases	0	0	0
Positive animal heads	31	24	..

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Book Abstracts and Reviews

Plastic Surgery. By Arthus Joseph Barsky, M. D., D. D. S., Associate Surgeon in charge of the Department of Reconstructive Surgery, Beth Israel Hospital, New York City; Adjunct Professor of Plastic Reparative Surgery, New York Polyclinic Medical School and Hospital; Associate Plastic Surgeon to the Morrisania City Hospital, New York City; Plastic Surgeon to the Beth El Hospital, Brooklyn, New York; Consulting Plastic Surgeon to the New York State Reconstruction Home, West Haverstraw, New York. Cloth. Pp. 355, with 432 illustrations. Price, \$5.75. Philadelphia and London: W. B. Saunders Company, 1938.

Barsky's book is a presentation of procedures in plastic surgery which have proved successful in the hands of the author and his colleagues. The book is of particular value to the surgeon whose work in plastic surgery is limited, since the author has selected the various methods he considers best rather than present a large assortment of procedures from which the reader must attempt to make a selection.

Introductory chapters deal with the general principles of skin grafts and tissue transplants. Chapters deal with plastic surgery about the eyes, on the nose and on the ears, operations for hare-lip and cleft palate, operations on the jaws, the neck and the extremities and on the use of prosthetic appliances. Illustrations which are always essential in clarifying the description of operative procedures are numerous and clear. A bibliography follows each chapter.

Anyone interested in the operative restoration of function after injury or the relief of disfigurements will find this book of value. The reviewer recommends it enthusiastically. C. K. W.

Parasitology, With Special Reference to Man and Domesticated Animals. By Robert Hegner, Ph. D., Professor of Protozoology, The Johns Hopkins University; Francis M. Root, Ph. D.; Donald L. Augustine, Sc. D., Assistant Professor of Helminthology, Harvard University; and Clay G. Huff, Sc. D., Associate Professor of Parasitology, University of Chicago. The Century Biological Series, Robert Hegner, Editor. Second edition of "Animal Parasitology." Cloth. Pp. 812, with 308 illustrations. Price, \$7.00. New York and London: D. Appleton-Century Company, Incorporated. 1938.

This book was first published in 1929 under the title *Animal Parasitology* by Hegner, Root and Augustine. At that time there was no textbook in the English language that included the great number of additions to knowledge of the subject that had been made during the previous decade. In this edition the parasites of man were emphasized throughout, while those of domestic animals were described wherever possible and those of other lower animals were included because of their availability or value for teaching purposes.

Since 1929, when *Animal Parasitology* was published, great progress has been made in parasitology and it was felt that a new edition under a different title that would remove the impression that the book was devoted to the parasites of the lower animals rather than to those of man and his domesticated animals was needed; therefore, the present edition, with a new name, and the addition of Professor Huff to supplement the contribution of the late Professor Francis M. Root on Arthropods of Parasitological Importance.

There are no radical departures from the previous edition but throughout the text revisions have been made to bring the subject matter up to

date. Many new illustrations have been added and throughout emphasis is placed on host-parasite relationships which necessitate discussion of the pathology and clinical symptoms produced by parasites; treatment and prevention of parasitism are also included.

Professor Hegner has written the introduction on parasitism and the section on protozoology, and Professor Augustine the section on helminthology.

The bibliography has been brought down to date and is adequate though many references in the text have not been included.

Occasionally one notes a surprising omission in the text, as, for instance, the failure to mention hexylresorcinol in the treatment of ascariasis. Also, there are typographical errors that appear inexcusable in a second edition. In spite of these minor criticisms the book remains one of the best in the language on the animal parasites of man and will meet with the enthusiastic approval of teachers and students of parasitology, veterinarians, and medical practitioners. It should be in the library of all interested in the subject.

S. R. D.

Midwifery. By Ten Teachers. Sixth edition. Cloth. Pp. 665. Price, \$6.00. Baltimore: William Wood and Company, 1938.

While this book is frankly written for medical students preparing for final examinations, it is a good text for nurse-midwives, and a guide and reference for medical practitioners. It has been used at the Lobenstine Midwifery Clinic, New York, for a text and reference for nurses since 1932.

It is a revision of a "Textbook for Midwives." by John S. Fairbairn, Oxford Press, 1930. This new movement in the production of students' textbooks, where the white corps of ten teachers and practitioners has acted in an editorial and revisional capacity on every chapter and section of the book, both text and illustrations, is one of the many forward-looking attempts in England to improve maternity service. The book begins with ovulation, in which chapter are several figures explaining the ovary, ovum, menstruation, fertilization, and development of the fetus. The nineteen chapters on pregnancy give the physiology, diagnosis and treatment, both for the preventive and the therapeutic method for the normal and the abnormal conditions.

The chapters on pelvimetry and the abnormal presentations would be excellent reference for a physician who has not been taught pelvic examinations in medical college. The diagrams, plates, and drawings are self-explanatory. Plate IX, "Diagram To Illustrate the Positions of the Lesions in Puerperal Infection" explains in color the primary lesions—placental site, cervix or perineum; the local secondary lesions—thrombophlebitis of the uterine and ovarian veins, pelvic cellulitis, peritonitis; and the remote secondary lesion—septic pneumonia, pluerisy, pericarditis, endocarditis, hepatitis, pyelitis, meningitis, cerebral abscess, and septic arthritis.

In England, fever in a patient occurring within twenty-one days after childbirth or miscarriage must be notified if it reaches 100.4 (38°C) and is

maintained for twenty-four hours or recurs within the period of twenty-one days. Such cases are notified as "puerperal pyrexia," whatever the cause. Once a definite diagnosis of puerperal sepsis is made, they should be notified as puerperal fever.

"The mortality from puerperal sepsis was 0.94 per 1000 registered births, but in view of the striking success which has appeared to follow the use of sulphanilamide in hemolytic streptococcal infections, it is to be hoped that the mortality will be considerably reduced since 70% of all fatal infections were due to infections from these organisms."

The book concludes with the diseases and injuries of the newborn child, operative delivery, anesthetics, and induction of labor.

This book in conservative practice in obstetrics leaves the reader more hopeful about the progress in maternity service.

M. M.

Truth About Medicines

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Anti-Erysipeloid Serum.—A serum containing the antibodies and antibacterial properties of *Erysipelothrix rhusiopathiae* (suis). It is recommended for the treatment of the clinical condition known as erysipelas, which is not to be confused with erysipelas.

Anti-Erysipeloid Serum-Jensen-Salsbery.—A serum prepared from the blood of horses subjected to increasing subcutaneous injections of live cultures of *Erysipelothrix rhusiopathiae* (suis); it contains 0.5 per cent phenol as preservative. The product is marketed in vials containing 20 cc. Jensen-Salsbery Laboratories, Inc., Kansas City, Mo.

Diphtheria Toxin Diluted for Schick Test (New and Nonofficial Remedies, 1938, p. 435).—This product is also marketed in packages of one vial containing 5 cc. of diluted diphtheria toxin, sufficient for fifty tests. Parke, Davis & Co., Detroit.

Iron and Ammonium Citrates.—"Contains ferric citrate equivalent to not less than 16.5 per cent and not more than 18.5 per cent of Fe" U. S. P. For actions and uses of this product see general article Iron and Iron Compounds, New and Nonofficial Remedies, 1938, p. 279. It is supplied in the form of capsules

0.5 Gm. (7½ grains). The Upjohn Co., Kalamazoo, Mich.

Cinchophen-Merck.—A brand of cinchophen-N. F. (New and Nonofficial Remedies, 1938, p. 177). Merck & Co., Rahway, N. J.

Whole Leaf Tablets Digitalis "Haskell," 1½ grains.—Each tablet contains one cat unit digitalis (New and Nonofficial Remedies, 1938, p. 186). Charles C. Haskell & Co., Inc., Richmond, Va.

Ampoule Solution Iron and Ammonium Citrates Green, 0.05 Gm. (¾ grain), 1 cc.—Each cubic centimeter contains green iron and ammonium citrates—U. S. P. (New and Nonofficial Remedies, 1938, p. 281) 0.05 Gm., and quinine and urea hydrochloride—U. S. P., 0.005 Gm., in aqueous solution. The Upjohn Co., Kalamazoo, Mich.

Ampoule Solution Iron and Ammonium Citrates Green, 0.1 Gm. (1½ grains), 1 cc.—Each cubic centimeter contains green iron and ammonium citrates—U. S. P. (New and Nonofficial Remedies, 1938, p. 281) 0.1 Gm., and quinine and urea hydrochloride—U. S. P. 0.005 Gm., in aqueous solution. The Upjohn Co., Kalamazoo, Mich.

Abbott's Standardized Brewer's Yeast Tablets.—Each tablet contains 0.5 Gm. (7½ grains) of dehydrated brewers' yeast (*Saccharomyces cerevisiae*) and is biologically assayed to contain not less than 23 international units of vitamin B₁ and not less than 12 Sherman units of vitamin B₂ (G). It is recommended for use in prevention and treatment of disorders arising from deficiencies of vitamin B₁ (thiamin chloride) and vitamin G (riboflavin). Abbott Laboratories, North Chicago, Illinois.

Aminophylline-Gane.—A brand of aminophylline—N. N. R. (New and Nonofficial Remedies, 1938, p. 503). Gane's Chemical Works, Inc., New York (Gane & Ingram, Inc., New York, distributor).

Ampules Solution Aminophylline-Searle, 0.48 Gm., 22 cc.—Each ampule contains aminophylline-Searle (New and Nonofficial Remedies, 1938, p. 505) 0.48 Gm., in sufficient distilled water to make 20 cc. G. D. Searle & Co., Chicago.

Carbromal Tablets, 5 grains.—Each tablet contains carbromal (New and Nonofficial Remedies, 1938, p. 155) 5 grains. The Upjohn Co., Kalamazoo, Mich. (J. A. M. A., Jan. 7, 1939, p. 49)

Sulfanilamide-Maltbie.—A brand of sulfanilamide—N. N. R. (New and Nonofficial Remedies, 1938, p. 450). It is marketed in the form of tablets 5 grains. Maltbie Chemical Co., Newark, N. J.

Hypodermic Tablets Strophanthin 1/200 grain—Upjohn.—Physiologically standardized by the Magnus modification of the Hatcher and Brody method to contain approximately 1.5 cat units strophanthin (New and Nonofficial Remedies, 1938, p. 200). The Upjohn Co., Kalamazoo, Mich.

Pyramidon Tablets, 2 grains.—Each tablet contains pyramidon (New and Nonofficial Remedies, 1938, p. 362) 2 grains. Winthrop Chemical Co., Inc., New York.

Solution Pituitary Extract—U. S. P. (Upjohn). A brand of solution of pituitary—U. S. P. (New and Nonofficial Remedies, 1938, p. 350). It is supplied in the form of ampoules $\frac{1}{2}$ cc. and 1 cc. The Upjohn Co., Kalamazoo, Mich. (J. A. M. A., Jan. 14, 1939, p. 145)

Antipneumococcic Serum, Refined and Concentrated, Type I.—Prepared by immunizing horses with intravenous injections of the virulent and avirulent cultures of type I and type II pneumococci. The serum is refined and concentrated by the method of Lloyd D. Felton. Sterility tests are carried out in the manner prescribed by the National Institute of Health and safety tests are carried out by injection into white mice and guinea pigs. The product is marketed in packages of one syringe containing 10,000 units and in packages of one syringe containing 20,000 units, each accompanied by a vial of dilute serum (1:10) for the sensitivity test. Gilliland Laboratories, Inc., Marietta, Pa. (J. A. M. A., Jan. 28, 1939, p. 329)

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Bristow Ultraviolet Lamp.—This lamp generates ultraviolet radiation of the mercury glow low pressure type for use in physician's offices and in hospitals or clinics. Both a hexagonal grid and an orificial appli-

cator combination are available. It operates on alternating current only. It is a semiportable unit. The intensity of ultraviolet radiation for therapeutic purposes produced by the Bristow lamp at 4 inches was 4,800 microwatts per square centimeter and at 24 inches was 640 microwatts per square centimeter. At the latter distance, a minimum perceptible erythema (mild reddening) may be produced by an exposure of about one minute. The unit was examined by a qualified investigator and found to give satisfactory service. Bristow and Company, Los Angeles, Calif. (J. A. M. A., Jan. 14, 1939, p. 145)

Burdick Air-Cooled Quartz Lamp (Professional Special) Catalogue No. QA-450.—This is a professional type ultraviolet lamp. It is self starting without tilting and builds up to operating efficiency in approximately three minutes. It operates on 25 or 60 cycle alternating current only. The firm claims that the lamp will produce ample ultraviolet radiation at a distance of 30 inches from the burner to the patient to produce a first degree erythema (mild reddening) on the average patient after an exposure of thirty seconds. The unit was investigated clinically for the Council by a qualified physician and was reported to give satisfactory service. The Burdick Corporation, Milton, Wis.

Airgard Air Filter, Model 50.—This apparatus is designed to remove pollen dust or other solid particles from incoming air for the relief of hay fever or other allergic diseases. It consists of a rectangular metal cabinet (28 inches wide by 12 inches high by $14\frac{1}{2}$ inches deep) with a grilled outlet in front and hooded intake in the rear. The cabinet is lined with sound deadening material. Recirculation of room air or a combination of room and outside air is possible. The only therapeutic claim made for the unit is that it will remove 97 per cent of all solid matter carried in the incoming air stream, thus offering relief in allergic diseases caused by inhalation of pollen or dust particles. According to the manufacturer, this efficiency will be maintained throughout the life of the filter cell irrespective of pollen or dust concentrations. In order to substantiate these claims, the unit was investigated by a competent investigator and found to give satisfactory service. Airgard Manufacturing Company, Chicago. (J. A. M. A., Jan. 28, 1939, p. 328)

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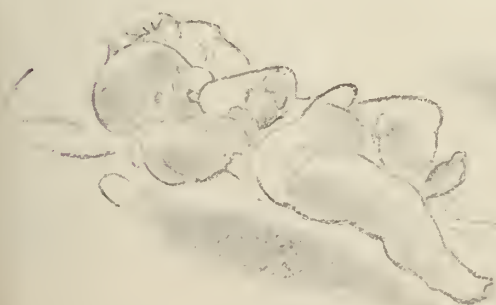
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Miscellany

HOW TO DEVELOP NORMAL EATING HABITS AMONG CHILDREN

Methods for developing and maintaining normal eating habits among children are outlined by Ruth Peck McLeod, Knoxville, Tenn., in the February issue of *Hygeia*, *The Health Magazine*.

"Regularity of habits is one of the therapeutic measures necessary in correcting the poor appetite," the author says. "The child should have plenty of sleep in a bedroom where there is plenty of fresh air, should arise in time to have a warm breakfast and should have his three regular meals on time, whether or not the rest of the family are ready. Extra lunches should consist only of fresh fruits and milk, as these are the only foods that can be served safely without destroying the appetite."

Unpleasant discussions and criticisms of the child's manners often kill the desire for food. Parents' prejudices against certain

foods should not be discussed before the child, nor should his failure to eat be made the topic of conversation.

"If the nervous child can be persuaded to lie down or relax or to read for at least thirty minutes before he eats, his stomach will be in a much better condition to handle his meal," says the author.

Too much indoor life in overheated houses with too little humidity may be responsible for poor appetite, she continues.

"If regular habits and sunshine do not produce a good appetite, then there must be an underlying cause which should be investigated."

It is not as a destroyer of property or as a consumer of food but as a health menace that the rat does the greatest harm.—*Hygeia*.

There is nothing to dread about cancer of the breast if one finds it in time, because it can be cured if treated early!—*Hygeia*.

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NITROUS OXIDE AND OXYGEN IN HOME OBSTETRICS*

By
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Athens, Alabama

The conduct of labor under the best of conditions is always a strain on both the physician and the patient. Pain as evidenced by the expectant mother enhances the difficulties of the doctor. It has always been the desire of physicians to lessen this pain as much as possible. The approach to the problem, obstetric anesthesia and analgesia, is beset by many pitfalls. Our best physicians have searched for the ideal drug to be used but so far their efforts have been in vain. Scores of drugs and combinations of drugs have been used, finding success for a while but being thrown aside when they failed to meet the needs of those not unusually skilled in their use. This has been particularly true in the sphere of home obstetrics.

The prime object of obstetrics is the delivery of a normal child, followed by a normal puerperium for the mother. To this may well be added the reduction of natal pain, for we have at our command numerous drugs, which, though not ideal, can be utilized toward this end. It is no longer necessary to tell our patients that they must go to the hospital to enjoy all the privileges and advantages of equipment found in such institutions. If circumstances demand it, the labor can be conducted in the home in a manner very similiar to that in a hospital.

The effort to perfect a satisfactory technique for home work has always been confronted by two main problems—the lack of trained assistants and lack of obstetric supplies. Sterile technique is not within the scope of this paper but there can be little doubt that, with the recent interest in ma-

ternal and child welfare, our expectant mothers demand a more sterile delivery than formerly. The problem of meeting that demand is being solved by our physicians in a most commendable manner.

In discussing relief of pain it must be said at the outset that nitrous oxide is no panacea for all ills but it does show marked advantages over other inhalation anesthetics.¹ However, no inhalation anesthetic has been found that is satisfactory in the early part of the first stage of labor.^{2, 3} During this period it is necessary to use the various sedatives, either alone or in combination, to carry the mother through the strain of the first stage as easily as possible. The dosage of the sedative selected for use here will vary according to whether the patient is experiencing her first labor or has had a child before. In the former case, when there is a very sudden onset of pains which are not accomplishing a great deal, a hypodermic injection of morphine sulphate is probably the best drug we have at our command. In multiparous women the use of morphine requires more judgment since it is not considered safe to administer this drug shortly before the child is born.⁴ As labor progresses and the cervix softens and begins to dilate, less powerful drugs are indicated. Here we have a host of drugs from which to choose. The barbiturates, paraldehyde in oil and ether in oil as rectal injections,⁵ magnesium sulphate given intramuscularly and others have their advocates, with the first named probably most

1. Webster, J. C.: Nitrous Oxide Gas Analgesia in Obstetrics, J. A. M. A. March 6, 1915, p. 812.

2. Barr, A., and Tindal, A.: New Machine for Self-Administration of Gas-and-Oxygen Analgesia in Labour, Lancet 1: 1271-1272, May 29, '37.

3. Lloyd-Williams, K.: Some Methods of Analgesia During Labour, Brit. M. J. 2: 1072-1075, Nov. 28, '36.

4. Hatcher, R. A.: Rectal Administration of Ether and Oil, J. A. M. A. 89: 2114 (Dec. 17) '27.

5. Gwathmey, J. T.: Painless Childbirth by Synergistic Methods, Bull. Lying-In Hosp. N. Y. 13: 83-94, May '24.

*Read before a joint meeting of the Northwestern and Southwestern Divisions of the Association, Tuscaloosa, December 8, 1938.

commonly used. I use nembital, repeated as found necessary, when the cervix reaches a dilatation about the size of a silver dollar. The occasional talkative, restless reaction to the drug adds to the difficulty of labor but with patience and tact this can usually be controlled without interference to labor. As the cervix enlarges and pains become more severe, late in the first stage of labor and early in the second stage, the inhalation anesthetic finds its most useful field. Here is the place where nitrous oxide proves its real value.

Certain requirements of obstetric analgesia should be mentioned in order to determine whether nitrous oxide-oxygen fills these needs.⁶ These requirements are 1. minimum toxicity for mother and child; 2. labor must not be prolonged; 3. the equipment must be transportable; 4. the anesthetic must be economical; and 5. skilled aid should not be necessary. These points will be discussed in consecutive order.

In no case under my observation has there been any immediate or late reaction to the use of nitrous oxide and oxygen. There is a minimum of absorption of the agent since it is not given continuously but only with the pains. On account of this it can be used for several hours without danger.⁶ I have personally used it for eleven hours in a persistent occiput posterior position, and cases are recorded where it was used for more than 15 hours. Neither ether nor chloroform can be used over the same period of time without danger to the patient. In order to secure the same advantages with these drugs as is secured with nitrous oxide and oxygen, the patient must absorb more of the anesthetic in order to reach the stage of analgesia. There are no remote effects upon the liver and kidneys such as can be found after the use of chloroform and ether. The old remark, "pregnancy reduces the toxicity of chloroform," is a fallacy for it does leave its mark. In 1,000 cases reported by Sword⁷ no stillbirths nor delayed respirations could be attributed to nitrous oxide. With no anesthesia, respiration begins immediately after birth in 98 per cent of the cases. With nitrous oxide, 80 per cent breathe immediately and

the remaining 18 per cent breathe normally in from one to three minutes, causing no ill effects except upon the composure of the attending physician.⁸ Bishop, who opposes inhalation anesthesia, states that nitrous oxide is the least toxic of any, and, if an anesthetic is to be used, it should certainly be the agent of choice.⁹ With the patient in the stage of analgesia the degree of anesthesia can always be controlled in the last part of the second stage. Just as the head is crowning, a complete relaxation can be secured by passing the gas through ether. A simple attachment provided with the machine allows this to be done very easily, and with two or three inhalations anesthesia can be reached so that an episiotomy can be done or the head delivered without any pain whatsoever to the patient.⁶

Is labor prolonged? The answer is "No." The contrary is true, for as the sensation of pain is dulled the bearing down effects of the mother can be secured to a greater degree and each pain accomplishes more.² Keep in mind that the patient is never so far under the anesthetic that she can not carry out the orders of the physician.¹⁰ This co-operation, combined with increased relaxation of the perineum, is a main factor in the shortening of labor. In addition to this, there is no effect upon the frequency of pains nor is the force of the uterine contractions diminished. References in the literature tend to show that the frequency of the pains is increased.

Transportability of the equipment is a very important item to consider. However, with the machines now available, this offers no problem. Various makes of machines can be had which are so small that they can be carried easily from place to place. In the first reference (1915) found about this anesthetic as used in labor, it was remarked that the use of nitrous oxide, even with the disadvantages of cumbersome machines, was the greatest step then taken in the realm of obstetrics.¹ Since that obstacle has been overcome the statement of this author as-

6. Boyle, H. E. G.: Gas-Oxygen in Midwifery, *Anesth. & Analg.* 9: 95-96, March-April '30.

7. Sword, B. C., and Perrins, H. B.: Continuous Nitrous Oxid-Oxygen-Air Analgesia in Obstetrics, *Anesth. & Analg.* 16: 249-253, Sept.-Oct. '37.

8. Eastman, N. J.: Monday Afternoon in Obstetrical Clinic: Induction of Labor; Relief of Pain in Childbirth, *S. Clin. North America* 16: 1337-1362, Oct. '36.

9. Bishop, E.: Analgesia and Anesthesia in Obstetrics, *Am. J. Surg.* 35: 252-258, Feb. '37.

10. Singleton, J. M.: Anesthesia and Analgesia in Obstetrics, *J. Missouri M. A.* 26: 494-497, Oct. '29.

sumes even more importance. Gas is now easily available in the most remote country homes.

Nitrous oxide is more expensive than chloroform or ether for these can be obtained for a very few cents. However, the average cost of nitrous oxide and oxygen will be about \$1.75 per case.¹¹ With additional use of this type of anesthetic, an added charge can be made for services to meet this further cost. Personally, I charge \$7.50 extra for such cases in which I use the gas machine and the patients are delighted to pay the added charge on account of the advantages enjoyed. So, economically, this service can add to the revenue of the physician.

Skilled aid is not necessary in order to operate the machine. With an automatic attachment, which allows the patient to give herself the anesthetic as needed, all the advantages of nitrous oxide can be had without the help of a skilled anesthetist. This attachment makes it impossible for the patient to do more than secure enough gas to reach the stage of analgesia. The operation of the machine is extremely simple. After the gas mixture is once adjusted to the recommended 90 per cent nitrous oxide and 10 per cent oxygen, no further attention need be paid the machine.^{12, 13}

It is difficult to estimate the value of this type of analgesia. There is no doubt that some individuals receive more help from it than others. However, by far the vast majority will be delighted with its use. To me it has proven a great help in obstetric work and most of my cases are delivered in the home. In our territory, 65 per cent of all babies are delivered in the home.¹⁴ This being true it behooves us to utilize every means at our command to increase our efficiency in such cases.

Perhaps the best judge of the anesthetic used is the patient, and in my experience, which includes 19 cases in which nitrous oxide has been used, every individual has expressed her appreciation of this type anal-

gesia. This has been particularly true of those patients who had previously been delivered of children when chloroform was used. It helps to remove the mental dread of labor since it relieves the pain of uterine contractions. A large number of patients do not even know when the baby is delivered and will not believe that labor is over until the baby's cry is heard. In the group of patients mentioned above there were two cases of persistent occiput posterior in primiparas. If any case will test the efficiency of an anesthetic, this type will and both cases went through labor with a minimum of pain. An episiotomy can be done very easily without interrupting the contractions of labor. This will materially shorten the second stage and prevent any undesired pressure effects upon the baby, in addition to preventing any serious damage to the perineum by undirected tears. The repair of the episiotomy is done easily and quickly with the addition of a few whiffs of ether to the gas. The patient awakens from the anesthetic immediately, without nausea and vomiting. If any physician uses the combination anesthetic in one case, I believe he will be so impressed by its advantages that he will not be satisfied without it in the future.

SUMMARY AND CONCLUSION

1. The first stage of labor must be controlled by sedatives as indicated. Inhalation anesthetics are not useful in this stage.

2. With cervical dilatation at the proper point, nitrous oxide-oxygen analgesia finds its greatest field of usefulness until labor is completed.

3. The toxicity of this agent makes it the anesthetic of choice over other inhalation anesthetics.

4. With machines now available this type of anesthesia is available in the home at small added cost and without the need of trained assistants.

5. Since 65 per cent of obstetric cases in Alabama are delivered in the home, it behooves us, as qualified physicians, always to endeavor to increase the ease of labor in the home.

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Bladder Tumors—The problem of bladder tumor treatment should be studied and carefully considered by every man engaged in the practice of medicine. It is not the specialist alone who is concerned with it.—*Kirwin, South. M. J., April '39.*

SULFANILAMIDE IN MEDICINE*

By

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Perhaps no drug has been so extensively used and written about as sulfanilamide or para-aminobenzenesulfonamide. Domagk, a German investigator, was one of the first to publish reports of its favorable effects in streptococcal infections in mice. This was February 15, 1935. The first paper in English was by Professor Horlein before the Royal Society of Medicine, October 3, 1935. The first clinical use in England of prontosil and prontosil soluble was published by Colebrook and Kenny, June 6, 1935. Some of the first experimental and clinical work done in the United States was by Long and Bliss.

This paper will be a brief discussion of sulfanilamide—concerning mode of action, dosage, uses, symptoms and toxic manifestations, together with a few other high lights gleaned from an enormous literature. As there were so many names for para-aminobenzenesulfonamide, the Council on Pharmacy and Chemistry of the American Medical Association on April 17, 1937 adopted the non-proprietary name sulfanilamide and it is now generally known by that name.

MODE OF ACTION

The mode of action is still uncertain. The question of whether the drug is bacteriostatic, bactericidal, or both is unanswered. There is also a controversy as to whether the drug causes an increase in phagocytosis. Several observers have shown that sulfanilamide in man is excreted almost entirely by the kidneys, either in the free or the conjugated form.

Pinto just recently published a report of the excretion of sulfanilamide and acetyl sulfanilamide in the milk of lactating mothers. His work showed that the concentration of sulfanilamide in human milk followed a similar course to that found by other workers for its concentration in blood. The only difference was that the peak of concentration in milk seemed to lag behind that in the blood by several hours.

DOSAGE

The dosage varies with different physicians. Some prefer a very large dosage in

the beginning of treatment; then gradually reduce the amount given to a small maintenance dose. Others use smaller amounts of sulfanilamide. A blood level of from 8 to 12 mg. of sulfanilamide per 100 cc. should be obtained to get the desired therapeutic effect. It is thought that very little therapeutic benefit is gotten if the blood is 5 mg. or less. Severe infections require larger dosage than do mild infections. Marshall, Emerson and Cutting described the method for determining the free and conjugated sulfanilamide in the blood and urine. Sulfanilamide is more effective in an alkaline urine. The excretion of sulfanilamide is diminished in disturbed kidney function.

The method of administration is usually in tablet form by mouth. There is a preparation called prontosil given in a 2.5% aqueous solution by needle. This name has been recently changed to neoprontosil. A neoprontosil tablet is now on the market also. It is a red tablet, and is said to be seven times less toxic than sulfanilamide. Bannick, Brown and Foster reported good results in ulcerative colitis cases with neoprontosil, but its effect is slower. These investigators also report using di-methyl-di-sulfanilamide in ulcerative colitis but have stopped it due to the peripheral neuritis it caused. This drug is not on the market for general use yet.

USES

Sulfanilamide has been used in the treatment of many diseases; so much so that it might be termed a panacea. Almost daily one finds another disease in which it seems to have been used successfully. Certainly sulfanilamide is a marvelous drug, and is most valuable when wisely used. Many observers have shown its worth repeatedly in curing beta hemolytic streptococcal infections. The mortality rate with sulfanilamide in hemolytic streptococcus meningitis has been reduced from over 95% to less than 20% in cases reported to date. In epidemic meningitis Dr. Josephine B. Neal feels that sulfanilamide is a valuable aid but should be used in combination with serum. Waghestein recently reported 106 cases of meningococcic meningitis treated with sulfanilamide and serum. Sulfanilamide alone was used in 72 cases, with eleven deaths, a case fatality rate of 15%. The combined treatment of antimeningococcal serum and sulfanilamide was used in 34 cases with 8 deaths, a case

*Read before the Birmingham Clinical Club, December 27, 1938.

fatality rate of 24%. Dr. Wallace Clyde read an excellent paper at the 1938 meeting of the Southern Medical Association concerning sulfanilamide therapy in epidemic meningitis. Dr. Neal stated that pneumococcic meningitis was uniformly fatal in her experience of twenty-seven years until she and her co-workers began the use of sulfanilamide. Since that time they have had thirty-three cases with six recoveries. Specific pneumonia serum was used along with sulfanilamide when it was available.

Cook and Buchtel and others find sulfanilamide an excellent urinary antiseptic for both coccal and bacterial infections. In gonorrhea it is of great value. It has little or no value on infections due to *Streptococcus fecalis*.

I could find very little on the value of sulfanilamide in pneumonia, but it seems of help in type three infections.

Reports vary as to its merit in undulant fever but it seems helpful, and should be used.

Sulfanilamide is of some aid in erysipelas and scarlet fever.

Neoprontosil tablets and sulfanilamide have proven of definite value in ulcerative colitis, according to reports from the Mayo and Cleveland Clinics.

Fred Loe at the San Francisco session of the American Medical Association in June of last year reported excellent results in the treatment of 140 cases of trachoma. Gradle of Chicago in discussing Loe's paper stated he had treated 21 trachoma patients with marked improvement, getting the same results in three weeks with sulfanilamide that it formerly took three to six months to obtain. These investigators do not claim cures, but a new means for combating the acute stages of trachoma.

One paper by Swift, Moen and Hirst and another by Massell report that sulfanilamide is of no value in rheumatic fever. This is interesting in view of the fact that rheumatic fever is thought to be of streptococcal origin. Swift et al. were of the opinion that the toxic action in rheumatic fever so far outweighed the beneficial effects that its administration did not seem justified.

SYMPTOMS AND TOXIC MANIFESTATIONS

After ingestion of sulfanilamide the symptoms that may be noted are headache, dizziness, nervousness, dyspnea, cyanosis, nausea, confusion, general malaise, weakness, gen-

eral intestinal disturbance, a sensation similar to alcohol intoxication, and sensory disturbance of toes—tingling and sensitiveness.

A person should not fly or drive a motor vehicle while taking the drug. Cook and Buchtel found about 10% of their patients could not tolerate sulfanilamide at all. Ambulatory patients cannot tolerate as large doses as bed patients.

More serious toxic effects are methemoglobinemia, sulhemoglobinemia, skin rash, optic neuritis, peripheral neuritis, toxic hepatitis, agranulocytosis, and acute hemolytic anemia. The skin eruptions reported have ranged from mild maculo-papular lesions over the body to severe exfoliative dermatitis and purpura. A rise in temperature is frequently seen after taking sulfanilamide but rapidly resumes normal when the medication is stopped.

Kracke has found and reported eleven cases of agranulocytosis in which the disease apparently followed the administration of sulfanilamide. Nine of these patients died. In practically all of these patients the leukocyte count fell to very low levels with complete disappearance of the neutrophils. He also found some patients who showed a stimulation of the leukocytes, the counts going to extremely high levels (25,000 to 74,000) after taking sulfanilamide.

Harvey and Janeway reported the first three cases of acute hemolytic anemia following the use of sulfanilamide. Two additional cases were later published by Kohn and Willis. Just recently Wood reported a study made on 522 patients at Johns Hopkins Hospital who had had sulfanilamide. The most serious toxic complication noted by Wood was acute hemolytic anemia. Twenty-one patients, or 4%, developed acute anemia. The incidence in children was higher (8.3%) as compared to adults (2.4%). The maximum anemia occurred usually on the fifth day, and in no case did it occur before the third or after the seventh day.

The anemia was treated by stopping the sulfanilamide, the forcing of fluids and blood transfusions. There have been no deaths reported from acute hemolytic anemia.

Just why some patients develop agranulocytosis or acute hemolytic anemia has never been explained. It is thought that the patient may be allergic or have an idiosyncrasy to sulfanilamide.

It is highly important that one should get frequent blood counts and watch patients carefully while they are on sulfanilamide therapy. A definite diagnosis should be made in each case and sulfanilamide used only when indicated. It is an excellent drug, but also a dangerous one when used indiscriminately.

There are many problems being investigated with sulfanilamide and its derivatives. The best preparation, the best way of administration, the optimum dosage and the elimination of the toxic effects are gradually being worked out.

Just what the future holds for sulfanilamide-pyridine, now being investigated by Merck & Co., and other derivatives remains to be seen.

The best policy is to follow the advice of the American Medical Association in the use of these drugs.

2011-9th Avenue, South

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PREOPERATIVE DIAGNOSIS OF GALLBLADDER DISEASE

THROUGH LABORATORY ANALYSIS AND FLUOROSCOPIC EXAMINATION OF THE GALLBLADDER AND DUODENUM

By

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Prominent physicians, surgeons, laboratorians and physiologists have for many years past offered reviews entitled "The Functions of the Gallbladder." Among the outstanding contributions we find that Mann in 1924 published a bibliography of 95 articles. Ivy in a similar review in 1934 published a bibliography of 553 articles, the majority of which represented work during the intervening decade. The contrast between these two reviews illustrates dramatically both the widespread interest in this field of medicine and the voluminous nature of the resultant literature.

Ivy, in reviewing the physiology of the gallbladder, pointed out that during the past decade no really new activities or functions have been discovered which had not been suggested before, but that it is now believed that the physiology of the gallbladder resembles in principles the general activities of the intestine, namely, absorption, secretion and motor activity. The normal gallbladder concentrates the hepatic bile that enters it to a density from four to ten times that of the original. This is accomplished primarily by the absorption of water and inorganic salts so that the bile tends to come into osmotic equilibrium with the blood serum. In this process of concentration the

*Read before a joint meeting of the Northwestern and Southwestern Divisions of the Association, Tuscaloosa, December 8, 1938.

bile is slightly acidified. The other biliary constituents appear to be absorbed only slightly, if at all, by the normal gallbladder, though there are many questions with regard to details which remain to be decided. In conditions of acute irritation it ceases to concentrate hepatic bile and instead pours out a fluid which may vary widely from normal bile in its composition. Because of the change in the concentrating power of the gallbladder, the composition of the bile, as emphasized by Ravdin and his associates, Riegal, Johnston, and Morrison, may show great variations in disease. Formerly there was considerable controversy as to whether the gallbladder ever emptied. This can now be accepted as a fact. The usually accepted view is that evacuation is the result of muscular contraction, though some investigators, as Marrazzi, still deny such activity. Ivy has expressed the belief that the concentration and evacuation of the gallbladder are due primarily to the stimulus of a hormone, cholecystokinin, and in part by a reflex nervous mechanism.

Much interest has been manifested within recent years by numerous investigators concerning the diagnosis of biliary stones. Prominent among these workers we find Twiss, Greene and Carter of the staff of the New York Post-Graduate Medical School Hospital. They emphasize that the three most important elements in the diagnosis of cholecystic disease are:

1. The history of the case;
2. Cholecystography; and
3. Non-surgical drainage of the biliary tract.

It is the unanimous opinion of all investigators and research workers that the history remains of paramount importance in diagnosis. Brown in particular emphasized the importance of a correctly taken, thorough and well studied history, comprising not only the record of the digestion but the entire history of the patient. By this means and physical examination he was able to make the correct diagnosis in slightly less than 85% of the cases which he reported.

Cholecystography is of extreme value in the diagnosis of disease of the gallbladder and is universally accepted. However, where biliary calculi are under consideration, it is also a well known fact that this method fails when the existing calculi are not radio

opaque. Attempts have been made to evaluate the reliability of this method by statistical analysis. This has been very difficult because of the various features which enter into the selection of the patients on whom this procedure is performed. Ferguson and Palmer, who reported and studied 2007 cases, concluded that good visualization of the gallbladder and no evidence of stones indicated the diagnosis of normal gallbladder with an accuracy of probably over 98%. The accuracy of diagnosis when stones were visualized either as positive or negative shadows likewise approached 100%. When visualization of the gallbladder failed and there was a clinical history of cholecystitis a diagnosis was later proved to be correct in 90% of the cases. If the clinical history was lacking, the diagnostic accuracy was less than 66.6%. The authors found that in the cases in which cholecystic disease was demonstrated at operation, a history of colic was noted almost as frequently as cholecystographic evidence of the lesion. Ferguson and Palmer used the intravenous method of administering the dye. Buisson and Hess likewise stressed the value of the intravenous method in obtaining the cholecystogram.

Kirklin pointed out that when the oral method was properly executed its efficiency is equal to that of the intravenous method. In a series of 732 cases in which the diagnosis was established at the operation, he found the accuracy of the cholecystogram in revealing a normal gallbladder was 89.5%. Gallstones were detected in 70.8% of the cases, but evidence of cholecystic disease was present in 99%.

The diagnostic value of non-surgical drainage of the biliary tract is a matter on which there is the widest divergence of opinion. When the new type tube with a terminal weight and the simplified technic described by Twiss are used, it is not a formidable procedure and can be used as a routine to the aid in diagnosis. The finding of crystals of cholesterol or of calcium bilirubinate in quantity—as Rousselot and Baurman agreed—is strong presumptive evidence of the presence of biliary calculi. It is this technic which results in the isolation and identification of this type of crystals, that we are at this time particularly interested in and which we hope will enable us with a certain degree of accuracy to preoperatively make a diagnosis of gallstones and incidentally prog-

nosticate the type of stones. For a number of years we have recognized duodenal drainage, the non-surgical drainage, as a popular diagnostic and therapeutic measure. Twiss's tube complete with the glass window and radio opaque tip has simplified this technic. The technic of introducing the Twiss duodenal tube is the same as in all other duodenal drainage. However, fluoroscopic inspection showing the loop of the tube in the right upper quadrant, the bucket in the descending duodenum, and the terminal ball in the transverse duodenum, is essential to be properly and definitely sure of the location and in this way certain of the drainage obtained.

In this particular instance we are most concerned with the microscopic examination. In most cases the technic and methods of examination are after those of Vincent Lyon. When the specimens are set aside as collected, microscopic examinations can be made upon the sediment in the bottom of the condenser rather than upon centrifuged samples. More than two or three hours delay in examination is not desirable.

Crystals which are now sought for are of the cholesterol type and when found piled together the individual forms can scarcely be recognized. When cholesterol crystals occur in large numbers, particularly when in massive formation, they are indicative of calculi. The calcium crystals, which are irregular, colorless, thick crystals, are fairly frequent but their occurrence has not been correlated with any particular pathologic state. The calcium bilirubinate crystals show three distinct forms. The amorphous form occurs as an indefinite granular mass. Crystalline calcium bilirubinate displays a brilliant red color when the light enters the microscope condenser. The bunchberry masses are readily identified by their form, yellow color and gritty response to pressure on the cover slip. This pigment may be associated with stasis and at times with cholelithiasis. Amorphous bile pigment is found in practically all specimens of bile. Its presence is regarded only when the amount is unusual. It is distinguished from calcium bilirubinate by the brilliant lustrous appearance of the latter. Bile stained mucus is characteristic of catarrhal conditions of the biliary tract. Bile stained leukocytes may occur as single, bright yellow cells, in clumps and in a disintegrated mass. Leukocytes as-

sociated with duodenitis will not stain. The detection of columnar epithelial cells is indicative of biliary pathology, as is oleaginous material.

We feel after reviewing considerable literature and the works of the various authors, research laboratorians and the like that the examination of the non-centrifuged sediment for the purpose of identifying crystals which are indicative of gallbladder disease is indeed most important as a preoperative diagnostic measure and certainly will assist materially in clarifying vague complaints which may or may not closely complicate symptoms of gallbladder disease, complicated by the presence of stones. Recently we have had two such cases at this facility and in neither case were we able to identify the presence of stones within the gallbladder from the history or the x-ray. In both cases cholesterol crystals were recovered together with calcium bilirubinate. At operation the gallbladders were found to be completely filled with stones varying in size from gravel to a small hen's egg and manifested other evidence of chronic biliary disease. It is our opinion that this technic as previously described should be employed in a routine manner where disease of the gallbladder or ducts is in question, especially where stones are considered, and that it will prove its value as a material aid in the diagnosis of the most obscure cases of cholelithiasis.

Fungous Infections—The large number of remedies in use for the treatment of fungous infections of the feet and hands is evidence that not one is entirely successful. It is probable that all these remedies will kill fungi in vitro, but most fail to do so when applied to the skin. The fungi are in the deep layers of the epidermis, and the fungicide does not reach them. The efficacy of compound ointment of benzoic acid, the remedy most extensively employed, is due to the presence of salicylic acid, which causes desquamation with consequent partial exposure of the fungi.

The ideal method of treating fungous infections would be the introduction of a fungicide into the skin without injury to the skin. This we have attempted to do by passing copper, which is highly fungicidal, through the skin by iontophoresis. The results obtained with this therapy, reported here, are distinctly favorable. The great majority of patients treated by this method were promptly relieved of all symptoms of dermatophytosis.—*Haggard, et al., J. A. M. A., April 1, '39.*

PRIMARY LYMPHOSARCOMA OF THE INTESTINE*

REPORT OF FOUR CASES

By
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Primary lymphosarcoma of the small or large intestine is seldom diagnosed clinically and rarely found at autopsy.

Ullman and Abeshouse in 1932 collected 125 cases since Grave's report and added one of their own, making a total of 375 cases. Since 1932 there has been a noted increase in the number of reported cases of this tumor in the medical literature. At the present time, there have been 435 cases of lymphosarcoma of the intestinal tract reported.

Four cases of lymphosarcoma of the intestine were noted in the course of 9,800 autopsies performed during the past ten years at the Charity Hospital of Louisiana at New Orleans.

CASE REPORTS

Case 1. The patient, a colored male, 72 years of age, was admitted to the Charity Hospital at New Orleans on March 4th, 1935 complaining of pains in the abdomen and chest with cough. He had expectorated blood-streaked sputum for the past two weeks. On admission, the patient was a senile colored male. The physical examination was essentially negative except for the abdomen which was moderately protuberant and tender; and numerous firm masses were palpated throughout the abdomen. The inguinal lymph nodes were firm and moderately enlarged. The urine and blood were essentially negative. The patient died two weeks after being admitted.

At necropsy, the peritoneal cavity contained 2,000 cc. of clear, straw-colored fluid. The mesenteric lymph glands and the lymph glands adjacent to the pancreas were found to be markedly enlarged, the largest of which measured 3 cm. in diameter. They were yellowish-white in color and firm; and on section were found to be solid. The normal architecture of the lymph nodes was completely obliterated by this tumor growth. The left lung was light gray in color and crepitant throughout. The upper lobe of the right lung had a shotty feeling; and on section there were seen numerous small yellowish-white tumor nodules varying in diameter from 0.4 to 0.5 cm. The peribronchial and tracheal lymph glands were enlarged and on section were similar to the lymph glands of the abdomen. The left adrenal gland measured 2.5 cm. by 4 cm. On section, there was seen a tumor nodule yellowish-white in color measuring 1 cm. in diameter. On opening the

stomach, numerous tumor nodules were noted in the submucosa. These tumor nodules varied in diameter from 1 cm. to 2 cm. and were similar in character to those previously described. In the duodenum, 3 cm. from the pyloric ring, was a large tumor nodule measuring 4 cm. in diameter. This tumor had destroyed the mucosa and had infiltrated throughout the wall of the duodenum. The jejunum and ileum showed no evidence of tumefaction.

Microscopic examination of the sections taken through the tumor mass in the duodenum showed it to be composed of large cells which were partly free and partly connected. The free cells consisted of large mononuclear elements with basophilic non-granular cytoplasm. The nuclei were large and hyperchromatic. Sections taken through the stomach, adrenal gland, lymph glands and lungs showed a similar picture.

The pathologic diagnosis was lymphosarcoma, arising in the duodenum and involving lungs, stomach, adrenal and lymph glands.

Case 2. The patient, a white female, 28 years of age, was admitted to Charity Hospital at New Orleans on July 6, 1935 complaining of pain in the abdomen with swelling. Examination revealed a slight asymmetry of the abdomen. This was due to a large oval tumor mass in the right lower quadrant. On palpation, it was cystic in character and about the size of a large grapefruit. The patient expired three weeks after admission.

At necropsy, the body was that of a well developed, poorly nourished white female, 28 years of age. On opening the abdomen, there was seen at the root of the mesentery a large white solid tumor mass measuring 10 cm. in diameter. On section, it had a uniform smooth yellowish color. The ileum and jejunum were adherent to each other by fibrous adhesions. On opening the jejunum, the wall was found to be markedly thickened, measuring 3 cm. in some areas. This thickening was due to the infiltration of tumor tissue. The ileum also showed a thickening of its wall due to the invasion of tumor tissue.

Microscopic examination of sections taken through the jejunum showed a lymphoid tumor which was invading the muscular coats. The cells were round, small and with a slightly irregular cytoplasmic outline. The nuclei were hyperchromatic and nearly completely filled the cells. There was a fine stroma present. Occasional mitotic figures were seen.

The pathologic diagnosis was lymphosarcoma of the jejunum with involvement of ileum and mesenteric lymph nodes.

Case 3. The patient, a white male 21 years of age, was admitted to Charity Hospital at New Orleans on September 7th, 1936, complaining of abdominal distention and mass. Physical examination revealed a lobulated irregular tumor mass in the left lower quadrant, which was movable, firm, and slightly tender. An exploratory laparotomy was done on September 10, 1936. The patient grew rapidly worse and died one week after admission.

At necropsy, there was a small quantity of

*From the Departments of Pathology of St. Margaret's Hospital, Montgomery, and State Charity Hospital of Louisiana, New Orleans.

cloudy fluid in the peritoneal cavity. The distal portion of the jejunum and ileum was white in color, firm and markedly distended. On opening the intestines a section of the jejunum and ileum revealed a marked thickening of their walls measuring 3.5 cm. in some areas. This thickening was due to the infiltration of firm yellowish-white tumor tissue. The lumen of the intestines was patent throughout. The mesenteric lymph glands measured 1 cm. to 2.5 cm. in diameter. They were firm, and on section showed tumor tissue similar to that seen in the intestines. In the myocardium of the right auricle, there was a small white tumor nodule, measuring 0.5 cm. in diameter. The examination of the other organs was not remarkable.

The microscopic examination of a section taken through the thickened portion of the jejunum showed a tumor that was invading the muscular wall of the intestine, having destroyed a large portion of this wall. The cells were small, round, and fairly uniform in size and shape, with an irregular cytoplasmic outline. The nuclei were deeply stained, hyperchromatic and almost completely filled the cell. Here and there fibrilla stroma could be seen. Sections of the mesenteric and mediastinal nodes and myocardium were similar in character.

The pathologic diagnosis was lymphosarcoma of the jejunum invading the ileum, mediastinal and mesenteric lymph glands and myocardium.

Case 4. The patient, a colored male 41 years of age, was admitted to Charity Hospital October 23, 1936, complaining of a mass in the lower abdomen. The physical examination revealed a mass in the right lower quadrant, not painful and about the size of one's fist. An exploratory laparotomy was done and there was seen extensive carcinomatosis of the mesenteric lymph glands and small intestines. The patient expired December 4, 1936.

At necropsy, the body was that of a colored male 41 years of age, well developed and poorly nourished. Body heat was absent; rigor mortis was present; body length was 179 cm. The pupils were round and equal, the chest was symmetrical, the abdomen was moderately protuberant, and there was a recent incision in the lower left quadrant. The lower extremities showed pitting edema. On opening the peritoneal cavity a small quantity of liquid was found; and fecal material in the pelvis. The intestines were adherent to each other by fibrous adhesions. The jejunum and ileum were markedly distended and their walls thickened. There was a perforation of the ileum 5 cm. from the ileocecal valve. This perforation was surrounded by yellowish-white tumor tissue. The wall of the ileum was markedly thickened, white and infiltrated with tumor nodules. Approximately 15 cm. of the ileum was involved by this tumefaction. On opening the sigmoid, the wall was found to be thickened, measuring 3 cm. This tumor process had ulcerated the mucosa and involved approximately 10 cm. of the sigmoid.

Microscopic examination of sections taken through the tumor mass in the sigmoid showed the cells to be arranged in cords and sheets. The

cellular elements were of various sizes and more or less stellate in form. The cytoplasm was neutrophilic and non-granular. Nuclei were large and hyperchromatic. The cells were interconnected by cytoplasmic processes. Sections taken through ileum, jejunum and mesenteric lymph glands showed a similar picture.

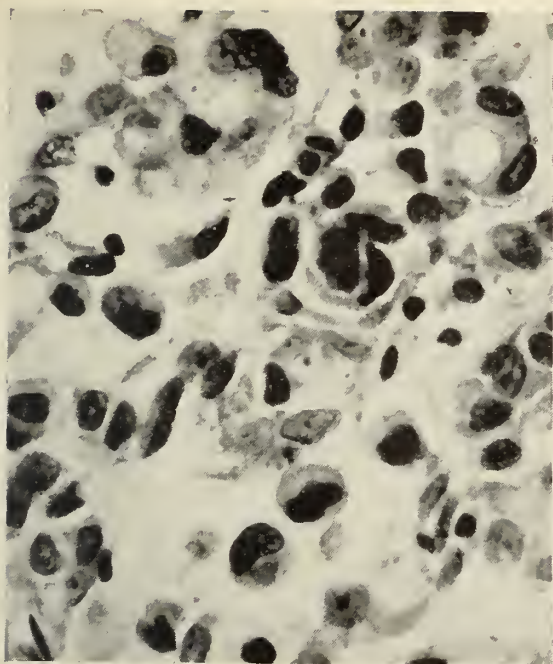
The pathologic diagnosis was lymphosarcoma of sigmoid involving the ileum, jejunum and mesenteric lymph glands. Perforation of the ileum with generalized peritonitis was also noted.

DISCUSSION

The importance of lymphosarcoma, aside from its entity, is its distinction from other lesions seen in the intestinal tract. Grossly, this tumor is a uniform typical lesion. It begins in the lymphoid follicles of the submucosa. As growth progresses the other coats of the wall are involved, frequently exhibiting ulceration of the mucosa. However, in nearly all instances the serosa remains intact. Grossly, the lesion may appear annular or polypoid, and is invariably accompanied by an aneurysmal dilatation of the intestinal lumen so that stenosis is rare. The thickness of the growth within the involved segment is naturally dependent upon the stage of development. In one of our cases it measured three centimeters in thickness. The color from the serosal surface shows nothing specific, but on section it is typically the moist whitish-grey appearance



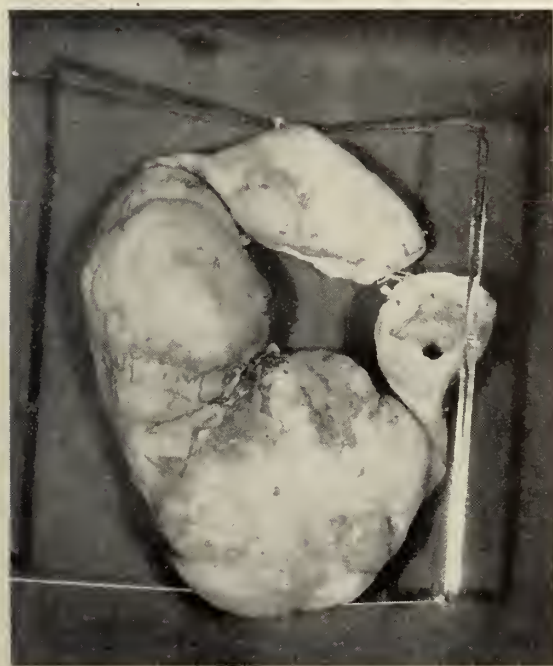
I. Primary lymphosarcoma of the duodenum with mucosa intact.



II. High power showing partly free and partly connected cells resembling lymphoblasts. (Primary lymphosarcoma of the duodenum.)



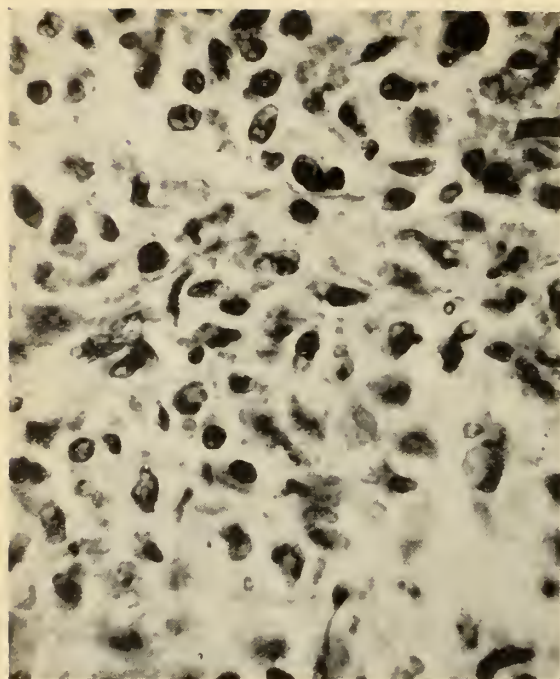
IV. Lymphosarcoma, lymphocytic type, showing small cells resembling mature lymphocytes. High power.



III. Lymphosarcoma of the jejunum with marked thickening of the wall, dilatation of the lumen and the serosa intact.



V. Lymphosarcoma infiltrating and replacing muscularis of sigmoid.



VI. Lymphosarcoma of the reticular type showing stellate cells with inter-connecting processes. High power.

seen in most lymphoblastic tumors. Not unusual, however, necrotizing factors lead to dissolution of portions of the growth. Lymphosarcoma may involve any portion of the gastro-intestinal tract. In our four cases we saw involvement of the duodenum, jejunum and ileum, and sigmoid and stomach. Spreading to the regional lymph glands, we saw marked involvement of the mesenteric lymph glands in all cases. Nodular involvement appeared in the myocardium, mediastinal lymph glands, lungs and adrenal glands. No metastases were noted in the liver, kidneys, bone or nervous system.

The microscopic picture of this tumor is not always a consistent one. Ewing has pointed out that there are two forms which retain their separate identity, since they appear to arise from two specific types of cells, namely, (1) the reticulum cell of the germ center; and (2) the lymphocytes. From the former type of cells there may develop a reticulum cell sarcoma and from the latter a malignant lymphocytoma.

The majority of authors reporting cases of lymphosarcoma have closely adhered to Ewing's classification. Recently a few authors have noticed that all cases of lymphosarcoma do not fit into either of the cell types

described by Ewing. I observed in the cases herein reported three separate and distinct types of cells predominating. These were, firstly, a small round cell resembling the mature lymphocytes; secondly, the large cells resembling the lymphoblasts; and thirdly, stellate-shaped cells.

This variety of cell types in these tumors may in part be explained by the theory of Joseph Ehrlich and Isadore Gerker who concluded from the study of the morphogenesis, particularly the histogenesis of lymphoid tissue, that lymphosarcoma of the lymph glands consists of a progressive differentiation of the cytoplasmic reticulum of the lymphatic tissue along the line of lymphopoiesis. They pointed out that the varied histologic appearance of lymphosarcomatosis represented different stages of lymphopoiesis.

Since lymphosarcoma of the intestine or lymph glands shows varied cell types, we should do well to describe the histopathology more completely than in the past and state the cell type predominating. By this means, we may in the future be able to determine which type of cell is the most malignant, and which is radio sensitive.

CONCLUSION

1. Four cases of lymphosarcoma of the intestinal tract are reported.
2. The gross and microscopic appearance of these tumors is discussed.
3. It is suggested that authors reporting cases of lymphosarcoma should describe the histopathology more in detail.

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1. Ullman, A., and Abeshouse, B. S.: Lymphosarcoma of Small and Large Intestines, *Ann. Surg.* 95: 878-915, June '32.
2. Ewing, I.: *Neoplastic Diseases*, Philadelphia, W. B. Saunders Company, 1928, p. 412.
3. Ehrlich, J. C., and Gerker, I. E.: Histogenesis of Lymphosarcomatosis, *Am. J. Cancer* 24: 1-35, May '35.

Thoracoplasty—Disease, elsewhere in the body, whether tuberculous or non-tuberculous, must be searched for and given due consideration before advising thoracoplasty. Mild tuberculous laryngitis, or mild intestinal tuberculosis are more often than not helped by collapse therapy, and are not a contraindication. A much more dangerous lesion is a tuberculous tracheobronchitis. This interferes with the raising of sputum after operation, and unless unilateral and mild, will result in a fatal outcome.—*Caldwell, Texas State J. Med., March '39.*

Special Article

POSTGRADUATE EDUCATION IN ALABAMA

Under this caption in the editorial section of the March 1939 Journal appeared an initial release regarding the Association's plans for medical extension teaching at various points over the State. These have proceeded sufficiently far to permit of announcement that the course began in Tuscaloosa on April 3, the field being internal medicine and the instructors, Dr. V. P. Sydenstricker of the School of Medicine, University of Georgia; and Dr. J. L. Wilson of the Tulane University School of Medicine.

This endeavor of the Association, through its Committee on Postgraduate Study, is in cooperation with the Division of Medical Extension of Tulane University, which has announced, as follows, the schedule for the first circuit:

April 3, 10, 24 and May 1, 8 and 15 at Tuscaloosa in the auditorium of the School of Medicine at 7:30 P. M.

April 4, 11, 25 and May 2, 9 and 16 at Demopolis in the Elks Club at 7:30 P. M.

April 5, 12, 26 and May 3, 10 and 17 at Selma in the auditorium of the Alabama Power Company building at 7:30 P. M.

April 6, 13, 27 and May 4, 11 and 18 at Clanton in the City Hall at 7:30 P. M.

April 7, 14 and 28 and May 5, 12 and 19 at Birmingham in the ballroom of the Tutwiler at 8:00 P. M.

Six lectures will be given at each center, and the meetings will be held at the same hour each week.

If a physician misses a lecture at his center, or wishes to hear the lecture again, he may drive to any other center to hear it without additional fee.

After the formal lecture the instructor will spend as much time as the class desires to discuss subjects pertaining to the lecture. Questions for the instructor to discuss may be written or asked in open meeting.

Whenever patients are available, clinical procedures will be demonstrated. The suc-

cess of this part of the course will depend very largely upon the cooperation of the local doctors, since they must provide the patients for the clinics. If any physician has any interesting cases, it will be of considerable benefit to have them presented to the class by the instructors.

The instructors will be glad to use the available time outside of the formal meetings to see patients with physicians alone or in groups. Every physician may take advantage of the opportunity to have conferences and consultations with the instructors. It is emphasized that the consultation service is free, and ought first to be made available to patients who could not afford to have it otherwise.

The instructors may be used also to speak before lay groups on subjects which might be interesting to the public.

Those chosen to present the intensive program in internal medicine are eminently qualified. Dr. Sydenstricker has been Professor of Medicine at the University of Georgia since 1922. He is also Physician in Chief of the University Hospital in Augusta and has had a long experience in teaching. He has done considerable medical investigative work. He received his medical training at the Johns Hopkins School of Medicine.

Dr. Wilson is Associate Professor of Medicine at Tulane University. He, too, graduated from Johns Hopkins. He spent five years at the New York State Hospital for Tuberculosis and was instructor at the Trudeau School for Tuberculosis. Immediately before assuming the position of Associate Professor of Medicine at Tulane he was an assistant professor at Yale University School of Medicine, with which institution he had been identified for five years.

Such backgrounds place these instructors in excellent position to present their respective subjects: the nutritional diseases, diabetes and peptic ulcer by Dr. Sydenstricker; cardiac diseases, the acute infectious and pulmonary diseases by Dr. Wilson.

Certainly the thanks of the Association are due its Committee on Postgraduate Study for the interest it has manifested in planning courses covering such important subjects. They will be amply repaid for their contribution if as many physicians as possible avail themselves of the opportunity offered in this teaching endeavor.

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April 1939

THE 1939 ANNUAL SESSION

Those who gave thought to the program of the 1939 annual session of the Association as published in the March Journal could reach but one conclusion; namely, that President Seale Harris has planned an outstanding meeting for April 18, 19 and 20 in Montgomery, with the Whitley Hotel as headquarters. Scheduled to begin at 9:00 A. M. on the first day, the session will be replete with interesting features. For example, there are the Sections on Medicine, Surgery, Gynecology and Obstetrics, Pediatrics, Public Health, and Eye, Ear, Nose and Throat. Then, as icing for the cake, are the general sessions featuring Dr. George T. Pack, Attending Surgeon, Memorial (Cancer) Hospital, New York City, as Jerome Cochran Lecturer; and other members of the profession with helpful contributions.

A noteworthy event will be the unveiling on the Capitol grounds, at 4:30 P. M., on the second day, of a memorial to Dr. James Marion Sims—the statue, a gift of the Association to the State, to be accepted by Governor Frank M. Dixon.

Particular interest attaches to the public meeting scheduled for 8:00 P. M., Wednesday, April 19, when the theme will be "Medical Education in Alabama."

Surely, few can afford to miss this meeting of the Association, described by President Harris as a postgraduate assembly. He has admonished, by letter, all members of the Association to avail themselves of the opportunity to be in attendance.

CARE IN TUBERCULOSIS THERAPY

The building up of the individual's resistance to the infection is the object of the therapy, the physician and the sanatorium in the treatment of the tuberculous patient. The modern concept of sanatorium care has been in existence for about fifty years. It is a worthwhile factor in the training of the patient to protect himself and other people, and in the arresting of minimal lesions and cavities which are small and soft walled. For the patient with the moderately or far advanced lesion this method, while alleviating the condition, has been futile.

Collapse therapy was first used in 1894 by Forlanini; in 1911 it began to undergo a renaissance but it was not until the last decade that such procedures have become general. Pneumothorax, thoracoplasty and phrenic nerve paralysis are operative measures which have become our most valuable adjuncts. Other measures which have been tried and proposed are extrapleural and suprapariosteal pneumolysis, intrapleural pneumolysis, multiple costal nerve paralysis, oleothorax, scalenotomy and scalenectomy. These operations, joined with the principle of bed rest as expressed by sanatorium treatment, have given patients new hope. Today fifty to eighty per cent of patients in tuberculous centers are receiving their benefits. Alexander says, "Collapse therapy offers a majority of tuberculous patients an excellent chance of becoming well."¹

There is no doubt that at some time in the course of the disease process it is possible to heal the lesion with bed rest alone or in a subsequent stage with rest and collapse therapy. The number of deaths from tuberculosis exceeds that of infantile paralysis and the morbidity is great. The public should become aware of this. The doctor must be on the alert to detect early lesions. Then it is not sufficient to resort to surgical means, or ship the patient to a sanatorium for a few months and so lull the fears of the patient.

1. Alexander, John: The Collapse Therapy of Pulmonary Tuberculosis, Springfield, Ill., Charles C. Thomas, 1937.

It is the physician's responsibility to make the patient understand that collapse therapy is an adjunct to bed rest, that not all sputums stay negative, and that both patient and doctor must guard against a breakdown which may follow the allowing of too vigorous activity.

THE DIAGNOSIS OF NERVOUS INDIGESTION

"The diagnosis of functional or nervous indigestion is made so frequently at present that it seems wise to determine, if possible, the accuracy with which the diagnosis is made. Many clinicians find that the majority of patients with dyspepsia who come under their observation fail to present any evidence of significant organic disease, and they are therefore of the opinion in such cases that the indigestion is functional or nervous in origin. In other cases a diagnosis of functional dyspepsia may simply represent the physician's inability for various reasons to discover an underlying organic disease to account for the symptoms."

In the foregoing paragraph Wilbur and Mills¹ open their inquiry into the accuracy of the diagnosis of functional indigestion. The authors studied the records of 354 patients who had been so diagnosed at the Mayo Clinic and who had been reexamined some years later. The average time elapsed between the patients' first and second visits to Rochester was seven and one-half years. "Belching, fullness and heaviness in the upper part of the abdomen after eating were the most common symptoms. Nausea, vomiting, eructations of gastric content and relief of symptoms following administration of sodium bicarbonate, other alkalis, or food were next. Heartburn was present rather infrequently. More than half of the patients stated at the time of the original examination that they were nervous or the presence of this symptom was recorded by the examining physician."

The results of the subsequent examinations showed that, of the 354 patients, 303 or 85.6 per cent were found to have functional dyspepsia; 39 or 11 per cent were found to have organic gastro-intestinal disease; and 12 or 3.4 per cent had organic disease other than in the gastro-intestinal tract.

Gastric and duodenal ulcers and cholecystic disease proved to be the chief stumbling blocks among the 39 with organic gastro-intestinal disease, though carcinoma of the stomach and colon was found three times and one case each of chronic ulcerative colitis and diverticulosis of the colon. The twelve patients with organic disease outside the gastro-intestinal tract were finally diagnosed as having heart disease and pernicious anemia, two cases each, and one case each of syphilis, arteriosclerosis, hyperthyroidism, myxedema, kidney stone, pulmonary tuberculosis, nephritis and pituitary tumor.

The authors hope that "as time goes on greater accuracy will be developed in the recognition of organic and functional disease of the gastro-intestinal tract. This will be accomplished principally by careful study of patients, recognition of the fact that duodenal and gastric ulcer and disease of the gallbladder may be overlooked more frequently than other gastro-intestinal lesions, and that occasionally unrecognized systemic disease may account for vague or indefinite gastro-intestinal symptoms." They also believe that the gastroscope has come to stay and that its use "should prove of considerable value in elucidating the diagnostic problem of chronic indigestion."

The question of how best to deal with what appears to be functional indigestion is one that frequently taxes the ingenuity and resources of a physician to the utmost. Every surgeon, internist and general practitioner is frequently besieged by many obvious neurotics who clamor for an appendectomy, a cholecystectomy, a pyloroplasty or what not for the relief of their alleged indigestion. Every time-tested doctor, save only those who suffer from *furor operandi*, wishes to avoid unnecessary operations if possible. And many of these operations can be avoided if practitioners will follow the sensible suggestions made by the Rochester investigators whenever it is possible to do so. Alvarez and others have for years warned us about the extent and variety of nervous indigestion and now come Wilbur and Mills with excellent statistical evidence that is highly confirmatory of their views. There is no reason to believe that the incidence of nervous indigestion will decrease in the immediate future, and practitioners should always bear it in mind as being a distinct possibility in many cases.

1. Wilbur, Dwight L., and Mills, John H.: How Accurate Is The Diagnosis of Functional Indigestion? *Ann. Int. Med.* 12: 821, December '38.

Committee Contributions

Prevention of Cancer

TWENTY-FIVE YEARS OF CANCER SERVICE

The American Society for the Control of Cancer was founded in 1913 by physicians, research workers, and a group of laymen. The Society started the compiling of statistics relative to the symptoms, diagnosis, treatment, and prevention of cancer, and the dissemination of knowledge of these findings.

The American Society is the only privately financed national organization dedicated to the fight against cancer. Until the past few years, only a very few states had appropriations for cancer work. The first national appropriation for cancer work was made in 1937.

Directly and indirectly the Society has been fighting this disease. The interest of physicians has been aroused through cooperation with organized medicine and its various associations. Today there are 272 cancer clinics approved by the American College of Surgeons, while in 1928 there were only 13. Ten years ago only a few state medical associations had a special cancer committee. Today every state has such a committee.

The lay educational program of the Society was given fresh impetus in 1936 by the organization of the Women's Field Army. There are now over 130,000 enlistments. The Army is supervised by the state medical associations which aid in the cooperation between the public and organized medicine.

The Society has answered 49,000 letters on cancer and two and one-half million scientific and medical leaflets have been given to the public in the past three years. Through this educational campaign, many people have been reached but there are many more who need to know of the danger signs so that they may seek treatment early. We can only emphasize the words of one writer who says: "There are few things in this world that will exact from a person such painful penalties for delay or will pay such generous dividends for promptness."

Maternal and Infant Welfare

PLACENTA PRAEVIA

During 1937, placenta praevia was given as the cause of death of eleven Alabama

mothers. Dr. DeLee in his seventh edition, 1938, *Principles and Practice of Obstetrics*, says: "A woman with placenta praevia should not die, except in the very rare instances of air embolism, hemorrhagic diathesis or spontaneous rupture of the uterus." Following this statement are points regarding the diagnosis and treatment, the ninth one, in the opinion of this Committee, being the first line of defense and if conscientiously adhered to would bring the majority of the cases to the attention of the physicians early. To quote: "9. Prenatally, every woman is instructed to report immediately even the slightest show of blood so that she can be hospitalized for eventual caesarean section." This statement presupposes that the expectant mother has seen her physician who has stressed the importance of reporting even a pinkish staining, often considered as "beginning to menstruate" by many women and therefore too insignificant to mention to the physician. As antepartum bleeding may be caused by other conditions than low implantation of the placenta, it is important that a diagnosis be made in all cases. When the diagnosis of placenta praevia is made, the woman should be sent to a hospital where she may be delivered with the minimum loss of blood. Preparations for operation should be completed before the internal examination is made as severe hemorrhage may follow even rectal examination.

According to the various authorities, there is no known expectant plan of treatment for placenta praevia. Constant attendance of the physician during labor is paramount until the patient is delivered and out of danger. When hospital facilities are not available for the emergency case, prompt control of the bleeding is essential by whatever method will save the most blood for the woman. Except in rare cases "flooding" of placenta praevia does not occur without some earlier warning. There have usually been several warnings of pinkish or slightly bloody discharge not recognized by the woman as dangerous. It is the right of every expectant mother to have adequate instruction concerning the danger signals of complications of pregnancy as well as the routine medical supervision, and the responsibility of this education lies with the medical profession.

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

FEBRUARY 1939

Examinations for diphtheria bacilli and Vincent's	807
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	412
Typhoid cultures (blood, feces, urine)	555
Examinations for malaria	788
Examinations for intestinal parasites	7,710
Serologic tests for syphilis (blood and spinal fluid)	15,630
Darkfield examinations	17
Examinations for gonococci	1,367
Examinations for tubercle bacilli	1,375
Examinations for Negri bodies (microscopic)	73
Water examinations (bacteriologic)	750
Milk examinations	1,947
Pneumococcus typing	104
Miscellaneous	1,104
Total specimens	32,639

BLOOD FILM EXAMINATIONS FOR MALARIA

With the advent of spring increased malaria morbidity may be anticipated through expected relapses and a gradually increasing transmission of the disease by mosquitoes as they return with warmer weather.

The typical text-book manifestations of malaria probably present little difficulty to clinical diagnosis. However, few cases of malaria are absolutely typical; often symptoms are masked or atypical. Under such conditions the clinical recognition of malaria becomes an exceedingly difficult problem. The therapeutic administration of quinine in obscure febrile conditions is at best a feeble and possibly dangerous hook upon which to attempt to hang a diagnosis of malaria.

The most certain method of clinching a diagnosis of malaria is through the demonstration of the malarial parasite in the blood. With malaria, as with all laboratory procedures, a single examination cannot be expected to yield 100% results. Experience has proven that a single thin blood film may be expected to give positive results in approximately 50% of cases of malaria. It has also been shown that the examination of a single thick blood film in cases of malaria results in a 50% increase in positives over those yielded by a single thin film examination; or, roughly, about 75% positive results

may be expected in cases of malaria through the examination of a single thick film. Therefore, if only one specimen is to be examined, better results may be expected from a thick blood film than from a thin blood film.

The preparation of a thick film for examination is not a simple matter unless certain important details are observed. For convenience, the proper procedure in the preparation of a thick film is given below.

1. Clean slides are of utmost importance since the blood film will slip off an oily or dirty slide. Therefore, in handling, do not touch the surface of the slides with the fingers.

2. Wash the finger or ear with alcohol to remove skin secretions, and dry. Drying is important because even a trace of alcohol on the finger will fix the blood film and this must not be done.

3. Prick the finger or ear deeply enough to allow blood to well up on gentle pressure. Deposit two to four drops of blood (depending upon size of drops) near one end of the slide. With the corner of another clean slide draw a circle with the blood to about the size of a dime and fill in the center with the excess blood. Defibrination is not necessary. Do not have the blood too thick. If more blood than necessary is placed on the slide it is better to make the puddle larger than to have the blood so thick in one spot that it will crack and chip off when dried. Do not touch the skin with the slide while taking the blood, as artefacts, which may be confusing in diagnosis, can be obtained in this way.

4. Allow the blood to dry in the air, being careful to lay the slide flat (so that the blood will be evenly distributed), and have it well protected from flies and dust. Place the cardboard between the slides, leaving the film side turned in, being careful that the cardboard does not touch the blood. Fasten together with a rubber band and put in slide box. The request slip may be fastened around the outside of the box. Do not let more than two days elapse before the slides are received in the laboratory.

5. A combination of thick and thin films, on opposite ends of the same slide, is an advantage in classifying species.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

IMMUNIZATION RECORD OF DIPHTHERIA
CASES IN ALABAMA, 1938

The true measurement of the effectiveness of toxoid or any other preparation designed to prevent diphtheria is the actual number of cases of this disease that occur in the inoculated group. For the past two years a questionnaire has been sent to the county health departments regarding each case of diphtheria reported. The analysis of the 1937 cases was published in this Journal, April 1938.¹ It is now possible to add a similar analysis for the questionnaires returned during 1938.

A total of 948 questionnaires were returned on which the information was sufficiently complete to tabulate. These revealed the following:

1. Two hundred-three (203), or 21.4%, gave a history of some form of immunization. Of these, 29 specified toxin-antitoxin or plain toxoid, while the others are presumed to have had alum-precipitated toxoid.

2. Fifteen (15) of these reported toxoid less than one month prior to the onset of diphtheria so these should be classed with the non-immunized group. Therefore, 188, or 19.8%, of the cases had been supposedly immunized.

3. Laboratory confirmation was obtained in 54% of the cases. The remainder were either negative or no tests were made.

4. Fifty-eight (58) of the cases were in children less than one year old.

5. Twenty-three (23) of these cases had been Schick tested at some time and reported as Schick negative.

6. Seven had experienced previous attacks of diphtheria. One child had his second attack four months after the initial occurrence.

7. Eighty-eight (88) deaths were reported in the group, or a case fatality of 9.3%. Seven of these deaths occurred in the 188 supposedly immunized, or a case fatality of 3.7%. In the non-immunized group 81 deaths occurred, or a case fatality of 10.7%.

These results coincide very closely with the 1937 figures in that 18.91% had been

inoculated in that year as compared to 19.8% this year. The case fatality was substantially lower both years in the inoculated groups.

The value of the immunizing agents used against diphtheria is clearly revealed by these analyses. Eighty per cent of the cases and 92% of the deaths are occurring in the groups which have not received any artificial stimulus. At the same time it is evident that complete protection is not afforded to all by the one immunization or one series of immunizations.

VENEREAL DISEASE CLINICS

The suggestion has been made that something be said about clinic attendance and clinician.

Primarily, the physician is the most important cog in the operation of a venereal disease clinic. The more efficient the service will be to the patients. If the needles supplied him are dull, or if the neoarsphenamine solution has stood for a period longer than twenty minutes, the patient will be unduly hurt by the injection or may develop reactions from a drug that has become very toxic.

There are some obligations to the clinic and patients on the part of the physician. Few things are harder to endure than inactivity and yet patients are often expected to wait at each clinic session from one to two hours or longer on the clinician. Then when he does arrive speed and hurry are the watchwords. Physicians who accept the onerous task of clinicians might ponder over the fact that, in clinics where patients have to wait hours before being treated, there is usually a high rate of lapsing patients.

BUREAU OF VITAL STATISTICS

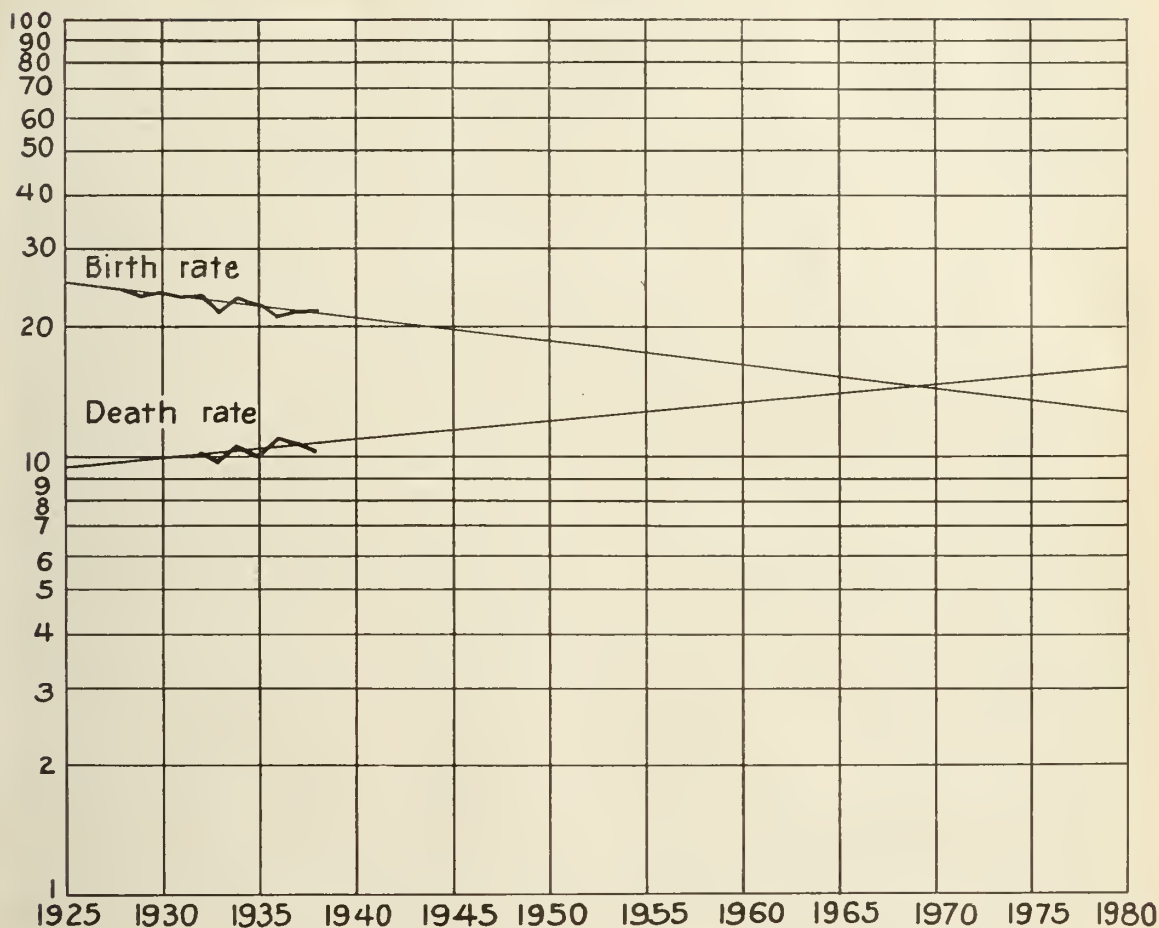
Leonard V. Phelps, S. B. in P. H., Director

TOMORROW'S POPULATION

Characteristics of the present population in Alabama are very different from those which prevailed half a century ago. Five decades hence they will have changed so as to be hardly recognizable from those at the beginning of the 100-year period.

According to the U. S. Census of 1880, only 5.4 per cent of the population resided in urban territory. Within 50 years from that

1. Gill, D. G.: An Analysis of 830 Cases of Diphtheria Occurring in Alabama During 1937, J. M. A. Alabama 7: 384-385 (April) '38.

TREND IN THE BIRTH AND DEATH RATE, ALABAMA
RATES PER 1,000 POPULATION

time the per cent so classified increased more than five-fold, reaching a figure of 28.1 per cent. The next regular census enumeration will be made in 1940. In all probability, it will be found that approximately one-third of the population is urban. Although it will still be found to be predominantly rural, if the present trend continues, we may expect to reach a point where the division will be about equal in 1970.

Our population will continue to increase in numbers, but not indefinitely. We are already beginning to note indications that within the short span of 30 years it will have reached its peak. Such an occurrence would be the result of natural phenomena.

For many years the birth rate has been declining at a fairly constant rate. Although the long-time trend in the death rate has been downward, since 1933 it has been upward. It may well be that we are now ob-

serving the beginning of the inevitable upward trend in the death rate. At the present rate of increase in the mortality rate and decrease in the birth rate, the rates will have become equal about three decades hence. It is estimated that the rates will then be 15 per 1,000 population.

Census records show that Alabama has lost more of her population by emigration than she has gained by immigration. If this continues to be true in the future, then immigration cannot be counted upon to replace losses due to a declining birth rate.

Changes in the age distribution of the population have been taking place over a long period of years. In 1880, 45 of each 100 persons were under 15 years; in 1970, we may expect it to have fallen to about 30 per cent. On the other hand, the per cent at 45 years and over in 1880 was approximately 14; in 1970, it will have risen to 21. In short, there

will be a much greater number proportionately of persons who have passed their forty-fifth birthday and a smaller number who have not yet reached their fifteenth.

The above changes of urbanization, aging and our approach towards a non-expanding population will bring social and economic problems the like we have not yet faced. Fewer children and young people cannot help but affect those industries that are now producing goods for that age group. There will be a decreasing demand for them and an increasing demand for goods for the older brackets. Our entire public health program will have to be revised to meet changing conditions. Many interesting changes indeed will have taken place in Alabama by 1970.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

BACTERIOLOGIC EXAMINATION OF PRIVATE WATER SUPPLIES

The water which is drawn from wells, that which is obtained from springs, that which flows in rivers, creeks, and branches, and that which stands in lakes and ponds is supplied by condensation in the form of rain and snow.

When rain water reaches the earth's surface, some of it runs off on the earth's surface; some of it evaporates; and some of it sinks into the ground. Some of that which sinks into the ground is taken up by vegetation; some of it remains in the soil; and some of it percolates downward until it comes in contact with an impervious stratum. The water so accumulated is known as ground water, and its level is known as the water table. The level of the underground or subsurface water will for all practical purposes follow the general contour of the ground surface. (It is from this source that shallow wells receive their supply.) When the ground water is sufficiently high, it may outcrop in valleys, forming springs and marshes.

Deep ground water as obtained from deep wells, usually 100 feet deep or deeper, enters the ground in the same manner as subsurface water but does so between two outcropping impervious strata. These layers of rock or other tight formations slope downward, which the water follows. If the rock which comes to the surface of the ground when the water enters is much greater than

the top of the well, then an overflowing well occurs.

Strictly pure water is not found in nature. Even rain falling through the atmosphere picks up dust, carbon dioxide, and oxygen. However, from a sanitary standpoint, water is considered pure when it does not contain any evidence of pollution from the waste of man and animals and when its chemical constituents are not harmful to the human system. Water is generally spoken of as the universal solvent. When it comes in contact with the earth's surface, it picks up more carbon dioxide, decayed organic matter, and human excreta where it is exposed on the surface of the ground. In passing through the ground, the soil particles have a natural tendency to filter out the harmful bacteria. The more filtration or the deeper the water, the more bacteria that are likely to be filtered out. This is true when water passes by gravity through the ground, but water entering a limestone crevice and flowing along this crevice is not subject to the natural processes of filtration and therefore may be dangerous to use as a domestic supply.

Considering that water, when coming in contact with the earth, becomes polluted with human and animal wastes and that the pollution is filtered out in passing through the ground, then it appears that in a non-limestone formation wells are usually contaminated from the surface. From the examination of many samples from open or dug wells it has been found that the waters are polluted. It stands to reason that if a well is open, contamination may be introduced by surface waters washing directly into the well, by dirty hands handling the bucket and rope, and by other means. It then appears that if one is to have a reasonably safe water supply, the first thing to do is to protect properly the well or spring against surface contamination rather than to collect samples of water to determine its bacteriologic quality. The State Board of Health has prepared a bulletin showing the manner in which these supplies should be protected, and copies of this bulletin are available for distribution.

When samples of water are submitted to the State Laboratory for bacteriologic analysis, a portion is taken from the container by means of a sterile tube and placed in a dish containing a medium favorable for the

growth of bacteria. This sterile plate, with the water and sterile bacteria food, is then placed in an incubator and allowed to remain at 37° C. for forty-eight hours. If there are bacteria in the water that will grow at this temperature, colonies will be formed on the plate. These may be easily counted and recorded. The number of bacteria does not necessarily indicate harmful bacteria but does give an idea as to the dirtiness of the supply.

At the same time as the above procedure is carried out, portions of water are also transferred to specially-fitted tubes containing a liquid medium. This medium favors the growth of bacteria that give off gas. The tubes containing the medium and water are also incubated under controlled conditions. If gas is formed in the tubes, it indicates that bacteria from the intestines of man or animals may be present, as this is the type of organisms contained in feces. If the tubes show gas, the procedure is carried further to ascertain if these bacteria are of the coli-aerogenes group, which further indicates that they may be from the intestines of man or animals.

No tests are made routinely for the specific organisms causing diseases, such as typhoid or dysentery, as this procedure embraces many factors that will not permit its adoption to routine examinations. Then too when organisms from the intestines of man or animals are found in water, it suffices that the supply should be looked on with suspicion, as pathogenic organisms may be present.

A. N. B.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

PEDIATRIC HISTORIES

It has been said truly that a doctor's ability can be determined by the histories he takes on his patients. His knowledge and understanding of medicine can be clearly revealed in his approach to a logical diagnosis by interrogation of the patient and the relatives. In many cases the nature of the illness can be ascertained before the physical examination is done. While the anamnesis of a pediatric case is apt to be shorter than that of an adult, the importance of this means of diagnosis must not be minimized.

The subject presents many and varied difficulties. Some diseases exhibit, in child-

hood, symptoms different from adult life, and the significance of the same symptoms often differs. At the same time, there are many affections peculiar only to early life. In addition, the infant cannot describe his illness, and an older child cannot be depended upon to give an accurate account. The inability to fully control a patient, or make an infant stop crying, makes an examination unsatisfactory. Hence, considerable skill, patience and tact are necessary requisites.

It is very important to gather a careful and complete history the first attempt. If conditions are not favorable at that time, supplements of records should be made later. In most instances, the mother will be the chief source of information while older children will be able to assist in giving a true account of the course of an illness. Experience has demonstrated that too much reliance should not be placed on either.

In taking an anamnesis, first allow the parent to state concisely the chief complaint of the patient and the duration. In some cases, there may be two or three unrelated complaints.

Next, obtain a detailed account of the present illness. Allow the history giver to tell the story in his or her own words, and then, by careful questioning, elucidate the points having a bearing on the case. Leading questions must be avoided, for the suggestions which these offer may result in erroneous statements. The exact date of onset, sequence of symptoms, and possible causes are important. The nature of the questions vary, but proper note should be made of fever and the condition of the nervous system as evidenced by restlessness, crying, drowsiness, convulsions, etc.; the degree of exhaustion and prostration; appetite and food intake; number and type of stools; loss of weight; course of the disease, etc.

The third division of an anamnesis is the past history. This subject extends to the prenatal period of the patient. The type and nature of pregnancy and labor should be determined. Was the baby blue? Was resuscitation difficult, etc? Information should be sought regarding the process of dentition; the time of crawling, sitting and walking; birth weight and subsequent alterations; particular attention should be paid to the feeding history of the child; inquiring into types of feeding, breast, milk formulas,

caloric, vitamin, and mineral content. Psychic development should be appraised, and nervous symptoms sought. All previous illness should be tabulated by name and complications inquired about. It is also wise to ask specifically about each system and organ of the body. Has the child had any immunizations or skin tests? Positive answers should be followed by appropriate questions to elicit the complete details of the illness.

The anamnesis is completed with the taking of the family history. The health of the parents and other members of the family should be ascertained. How many siblings living? How many dead, and cause of death. An effort must be made to learn whether there are any family diseases such as allergy (asthma, eczema, hay fever, urticaria), tuberculosis, nervous disorders (insanity, epilepsy, Friedreich's ataxia), alcoholism, gout, diabetes, cancer, heart and kidney disease, hypertension and obesity. Special care and tact must be used in obtaining a history of syphilis. An inquiry concerning social and economic conditions of the family will yield information which will be of great aid in diagnosing and caring for the patient.

W. E. B.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1939

FEBRUARY 1939

	Jan.	Feb.	Estimated Expectancy Feb.
Typhoid	10	16	14
Typhus	22	12	8
Malaria	63	56	65
Smallpox	1	6	6
Measles	434	917	385
Scarlet fever	69	83	89
Whooping cough	129	99	121
Diphtheria	42	39	86
Influenza	706	785	1196
Mumps	86	128	155
Poliomyelitis	2	6	3
Encephalitis	1	1	2
Chickenpox	314	206	229
Tetanus	3	3	3
Tuberculosis	201	248	302
Pellagra	12	11	15
Meningitis	11	14	9
Pneumonia	558	584	620
Syphilis	984	1430	219
Chancroid	4	6	5
Gonorrhea	250	248	181
Ophthalmia neonatorum	1	2	0
Trachoma	0	0	0
Tularemia	2	3	2
Undulant fever	2	3	1
Dengue	0	0	0
Amebic dysentery	0	0	0
Rabies—Human cases	0	0	0
Positive animal heads	24	21	—

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Book Abstracts and Reviews

The Care and Feeding of Babies in Warm Climates. By Charles James Bloom, M. D. Cloth. Pp. 358. Price, \$2.75. New Orleans: Pelican Publishing Company.

This book, by one of the South's best known pediatricians, was written primarily for mothers. It contains a mass of information concerning the care of babies and children, so simply expressed that any layman could understand it. Most of the common questions a young mother would ask are answered fully. In fact, details are so abundant they are apt to be a little confusing. Also, some pediatricians would take issue with a few of them.

One-third of this volume is devoted to two chapters on "The Baby's Food" and "The Baby's Cook Book." Dr. Bloom strongly prefers cow milk feedings. One wonders why more importance is not given to evaporated milk formulae since these are safer than cow milk mixtures, just as economical, and more convenient. Although a large number of tempting recipes are given, it is doubtful whether many of them will be tried by modern mothers since they have already demonstrated their inclination to use popular canned foods. These commercial products have proved convenient, safe, comparatively cheap, and, in general, satisfactory in meeting the nutritional requirements of the growing child.

There appears to be little justification for the title "The Care and Feeding of Babies in Warm Climates," since the details of care and feedings mentioned are little different from those of babies in other climates. There are a few minor suggestions made regarding care of the infant during hot weather.

This book will be of great aid to women, who, for the first time, are undertaking the duties of motherhood. Nurses may also read it to great advantage, but it is not recommended for physicians.

W. E. B.

The Complete Guide to Bust Culture. By A. F. Niemoeller, A. B., M. A., B. S. Foreword by Edward Podolsky, M. D. Cloth. Price, \$3.50. New York: Harvest House.

In the introduction the author clarifies the nomenclature he uses in this quite unusual book. Many books have been written on hygiene of other parts of the body but none on the bust. Though breast, bosom and bust have been used as if they were entirely synonymous, they are not to be used interchangeably. Breast refers to the mammary gland and is singular, while bosom refers to both breasts taken as a unit. Bust, on the other hand, refers to the "contour of their blending with the sweep of the chest above and the lines of the body immediately below." It is then for the culture of the bust that this book has been written.

Lotions, devices, "treatments," and patent medicines are condemned unequivocally. The uses of hormones are discussed but with the reservation that most of the hormones are still in their experimental stage.

There is much repetition and duplication of material throughout the book. This is due in part to

the detailed division into chapters which the author has adopted to make this book a miniature encyclopedia on the subject. Some of the reasons given for nursing have no scientific background though we heartily approve the insistence on breast feeding whenever possible. The author advises the reader repeatedly to consult a physician whenever there is the slightest doubt concerning any condition. While the chapter on brassieres is one of the best and well worth any woman's time to read, there are numerous methods of treatment and explanation of etiology which would be considered doubtful by leading authorities.

E. F. D.

Babies Are Human Beings. By C. Anderson Aldrich and Marg. M. Aldrich. Cloth. Pp. 128. Price, \$1.75. New York: The Macmillan Company, 1938.

The dual authorship of this book by an outstanding pediatrician and his wife is reflected in the scientific, practical and commonsense approach to the subject "Babies Are Human Beings." The present scientific knowledge of the growth and development of the infant is presented in a simple form which can be easily understood by parents. The veil surrounding the mental life of a young child is drawn aside, and a clean conception of the motivating forces behind his development are revealed. Helpful suggestions are made regarding the correct care of children in the first few months of life. In the end, one is made to realize that, after all, babies are human beings.

This is one of the most successful books on the subject of the early development of infants. While written primarily for parents, it can be read to advantage by all pediatricians and general practitioners. It will be of particular value to any young doctor just beginning practice who has had little experience with children and parents.

W. E. B.

Your Chest Should Be Flat. By S. A. Weisman, M. D., F. A. C. P., Assistant Professor of Clinical Medicine, University of Minnesota; Member of the Consulting Staff in Tuberculosis, Glen Lake Sanatorium, Oak Terrace, Minnesota; Member of Staff, St. Andrews and St. Mary's Hospital, Minneapolis, Minnesota. Cloth. Pp. 145. Price, \$2.00. Philadelphia, London, New York and Montreal: J. B. Lippincott Company.

The occasion for writing a book is quite often on the basis that the author has something to say, although other motives are not infrequently involved. Despite the fact that only a short time was required to read this book, I am still left with some oscillating opinions as to the occasion for a long dissertation on thoracic index.

The fact that it is easy to read, does not take long nor cost much, advances one new impression and many old opinions in readable form can be considered in its favor. However, to read it with too critical and too analytical and inquiring an attitude rather spoils the general impression and would thereby dampen the enthusiasm that the author has tried to work up for better living conditions and developmental attention toward the growing generation, a worthy motive if for no other reason.

H. T.

Truth About Medicines

PROPAGANDA FOR REFORM

Amphetamine (Benzedrine) Sulfate for Alcoholism.—Benzedrine to cure habitual drunkenness was mentioned in a news report concerning its use in place of liquor for cocktail parties. The final sentence of this press release stated: "Although many of the alcoholics experimented upon were cured, Dr. Bloomberg does not maintain that the treatment is a solution for all addicted to liquor." The Council on Pharmacy and Chemistry within the last year has published a report, "The Present Status of Benzedrine Sulfate," which has a considerable number of warnings concerning the use of this preparation by the general public, and its use for the purpose of "pepping up" or of getting a "kick" out of its effects is most definitely decried. There are several other features which Dr. Bloomberg has apparently overlooked, among them the fact that, while alcohol is a dilator of blood vessels, benzedrine is a vaso-constrictor. The difference in effect, for example, of alcohol and benzedrine in potential coronary disease requires serious consideration. The release of information of this type to the daily papers is always considered objectionable. In accepting benzedrine sulfate, the Council was careful to point out that the product should not be used by the layman without resort to a physician's prescription, and such a stipulation applies most definitely to the recent release on Bloomberg's work. (J. A. M. A., March 11, 1939, p. 1010.)

The Present Status of Cyclopropane.—The Council on Pharmacy and Chemistry stated in a preliminary report on cyclopropane (*The Journal*, Jan. 25, 1936, p. 292) that the anesthetic could not be properly evaluated because adequate evidence was not available. Since then much clinical and pharmacologic evidence has become available. The Council has reviewed this further evidence and reports that cyclopropane has the same potential danger of explosibility as the more commonly used ethyl ether. There are several brands available, one of which is made by a different process than the others. There is the possibility that there may be impurities present in the commercial brands. There appears to be an unusual effect on the heart, since arrhythmias have been encountered that are not ordinarily

seen with ether anesthesia. Experience has indicated that epinephrine or other sympathomimetic amines should not be administered during anesthesia with cyclopropane. For this reason, as well as because the ordinary signs of anesthesia are not useful, it is necessary to watch the pulse very closely during administration of cyclopropane. The question of whether laryngospasm is more frequent with other agents remains to be settled. The incidence of pulmonary complications seems to be no greater than or not as great as the incidence following ether anesthesia. In anesthetic concentrations there does not seem to be a deleterious effect on the liver. The kidney output is similar to that seen with ether and ethylene. Headache may occur more often than with ether anesthetics. It is recommended that no one attempt to administer this gas who is not thoroughly familiar with its properties and with the signs that are available to indicate the depth of anesthesia; these differ from the signs for other anesthetic agents. Many authorities believe it preferable to use the closed technic and that premedication which affects the respiratory center should be used with caution. Details of induction, maintenance and recovery are given in the Council's report, relaxation and oozing are discussed and the use of various types of gas machines are mentioned. There seems to be no special type of case in which cyclopropane should be avoided, with the possible exception of certain cardiac conditions. Its usefulness in obstetrics both as an anesthetic and for analgesia and in thyroid and thoracic surgery is described in the Council's report. Brief mention is made of the homologues of cyclopropane. The Council's review of the available evidence indicates that cyclopropane is a suitable anesthetic agent when used cautiously by those fully informed of its properties, potential dangers and signs which indicate the stages of anesthesia obtained with this agent. (J. A. M. A., March 18, 1939, p. 1064.)

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

General Electric Sunlamps.—The General

Electric Sunlamps generate ultraviolet and heat radiation. There is evidence that the ultraviolet radiation produces vitamin D in the body, which has a favorable influence on the metabolism of calcium and phosphorus in general and the prevention of rickets in particular. These sunlamps come in three models, Miami BM3, California BM7 and Florida BM6. Each lamp makes use of the S-1 type General Electric Mazda Sunlight Lamp. These lamps operate only on alternating current. The General Electric Sunlamps generate 50 microwatts per square centimeter at a distance of 45 inches from the rim of the reflector. At this distance a period of sixteen minutes under these lamps is equivalent to twenty minutes under mid-summer sunshine. General Electric Company, Bridgeport, Conn. (J. A. M. A., March 11, 1939, p. 908.)

Western Electric Audiphone, Ortho-Technic Model.—The Western Electric Audiphone, Ortho-Technic Model, is a carbon microphone hearing aid. It is assembled from parts designed to provide different frequency response characteristics. After the individual's hearing loss has been measured the parts are selected which will best meet his requirements. The equipment consists of microphone, air and bone conduction receivers, amplifier, batteries (supplying 3 and $\frac{1}{2}$ volts), head band, cords and receiver tips. The unit was tested for the Council by a competent investigator who reported satisfactory results. Western Electric Company, New York.

Burdick Surgical Diathermy, Model D-3.—This portable unit is recommended for surgical and for limited medical purposes. It is primarily a surgical unit producing current for electrocoagulation and desiccation. It is adaptable for moderate diathermy use. The unit operates by spark gap. Data submitted by the firm on temperatures observed for spark gap, transformer and cabinet interior, taken after six hour runs at full load, were within the limits of safety. The unit was investigated clinically by a qualified physician and reported to give satisfactory service. However, it was pointed out that because of the length of the electrode handle, 14 inches, it is often necessary in performing fine work to slide the hand down over this insulated section to gain control of workmanship. The Burdick Corporation, Milton, Wis.



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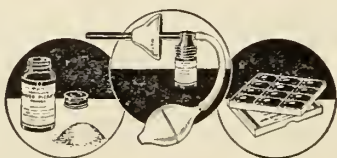
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Miscellany

ERYSIPELAS MORTALITY RATE REDUCED BY SULFANILAMIDE

FEWER DEATHS REPORTED AMONG PATIENTS
TREATED WITH THE DRUG THAN THOSE
RECEIVING ANTITOXIN

The death rate from erysipelas has been greatly reduced by the use of sulfanilamide in its treatment, John Nelson, M.D., Harvey Rinzler, M.D., New York, and M. P. Kelsey, M.D., Temple, Texas, state in *The Journal of the American Medical Association* for March 18.

In 406 cases of erysipelas treated at Bellevue Hospital, New York, during the winter of 1935-1936 with erysipelas antitoxin the death rate in adults was 9.2 and in children 37.5 per cent. From January to July 1937, 344 patients with the disease were treated with sulfanilamide and the mortality in 313 adults was 1.44 per cent and in thirty-one children it was 12.9 per cent.

Erysipelas is a contagious disease, characterized by fever, chills, insufferable itching and burning, painful swelling and spreading patches of redness of the affected part or parts.

(Continued on page 9)

HOYE'S SANITARIUM

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DR. M. J. L. HOYE, Supt.

Formerly Sixteen Years Superintendent of
East Mississippi State Hospital

OUR ADVERTISERS

The Journal of the Medical Association of the State of Alabama is made possible largely because of the cooperation of firms whose advertisements constitute a valuable part of the publication.

Members of the Association have occasion to purchase articles advertised. Other things being equal, preference should be shown firms who place announcements in our Journal. Further, when ordering goods from our advertisers, mention The Journal.

It is another of the many varieties or types of streptococcic infections which apparently are effectively treated by sulfanilamide.

Adverse reactions (nausea, cyanosis, dizziness, vomiting and jaundice) may occur with sulfanilamide treatment. However, these reactions should not prevent or prohibit its use, but it is readily seen that the drug should be given only by an experienced physician and that the patient with this disease should be hospitalized.

WIDESPREAD USE OF TUBERCULIN TEST URGED TO DISCOVER INFECTION

Emphasizing the importance of early diagnosis in a tuberculosis control program, E. A. Thacker, M. D., Urbana, Ill., in *Hygeia*, *The Health Magazine* for April, urges the widespread use of the tuberculin test to discover infection.

"Early tuberculosis ordinarily manifests itself in an insidious, gradual onset, sapping the vitality and strength of the individual, yet producing only vague, indefinite symptoms," the author says. "A hacking cough often attributed to smoking or fatigue attributed to overwork may be all that is noticed."

Many persons, therefore, fail to go to a physician when such symptoms occur. A routine program using the tuberculin test, such as many communities and schools have inaugurated, discovers such early cases.

While a positive reaction to the tuberculin test does not mean that the person examined has active tuberculosis, it indicates that at some time or other he has been infected with it. "Positive reactors are far more likely to develop the disease in later life than are the negative reactors," Dr. Thacker points out. Therefore, an x-ray examination should be performed on all positive reactors to determine whether the disease is in the active stage.

Discussing the course of the disease, the author says, "The initial or childhood type of infection produces an inflammatory or pneumonia-like lesion in the lungs and after weeks or months usually completely heals, leaving a small scar or a calcified nodular tubercle. Although children may die from this first infection, the vast majority overcome it, and many pass through this initial infection without knowing it.

"The adult type of tuberculosis occurs in one of two ways. The small healed lesions

from the initial infection may break down, allowing some of the organisms that have remained alive within the tubercle to spread through the allergic tissues. Or else the person comes in contact with an active case of tuberculosis; the bacilli are taken into the lungs and the destructive type of tuberculosis begins.

"The classic symptoms of the reinfective or adult type of pulmonary tuberculosis include loss of appetite, loss of weight, fatigue, unexplained pains in the chest, afternoon fever, pleurisy, cough and sometimes blood in the sputum.

PLACE OF SULFANILAMIDE IN PNEUMONIA TREATMENT NOT YET ESTABLISHED

The future specific treatment of pneumonia probably will be with a combination of sulfanilamide and pneumococcus serum, especially in those cases caused by types II and III pneumococci, Alvin E. Price, M. D., and Gordon B. Myers, M. D., Detroit, state in *The Journal of the American Medical Association* for March 18.

Although the results obtained from using the drug in the treatment of pneumonia are encouraging, the two men point out, the place of sulfanilamide in the treatment of the disease is not yet definitely established.

Their paper in *The Journal* is a preliminary report, based on 115 cases of pneumococcic pneumonia treated with uniform doses of sulfanilamide, forty cases with Felton serum and ninety-four controls with no specific treatment.

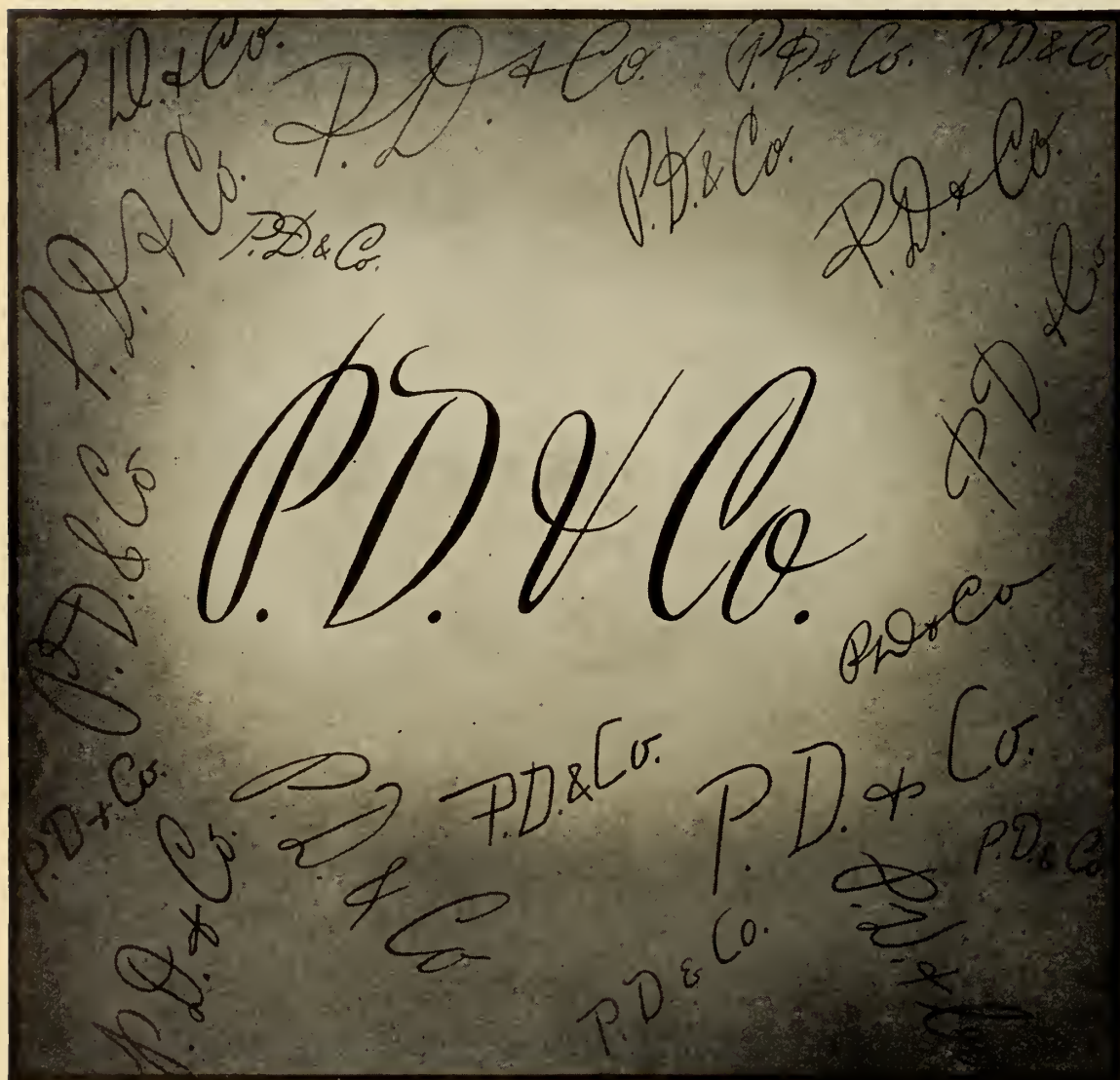
The death rate was 15.7 per cent for the group of patients treated with sulfanilamide and 30.8 per cent for the controls. The death rate for fifty-seven patients with types I, II, V, VII and VIII pneumonia treated with sulfanilamide was 10.5 per cent, whereas it was 27.5 per cent for the forty patients with the same types of pneumonia treated with serum.

Of twenty-one patients with pneumococci in the blood stream treated with sulfanilamide seven died, of twelve treated with serum six died and of fifteen controls thirteen died.

Some adverse reactions due to sulfanilamide treatment occurred. In 5.2 per cent of the patients treated with sulfanilamide a severe anemia developed and in an additional 18.2 per cent moderate secondary anemia, influenced by the infection, developed.

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THE JOURNAL

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MEDICAL AND PUBLIC HEALTH NEEDS*

AND

ADVICE TO YOUNG DOCTORS

By

SEALE HARRIS, M. D.
Birmingham, Ala.

The distinction of being president of The Medical Association of the State of Alabama is an honor which should bring lifelong pride and pleasure to any physician residing in our favored State; yet, when one contemplates the opportunities for service which the position offers, and the responsibilities of leadership which it carries, he is overwhelmed with humility. While the present incumbent in the presidential chair is profoundly grateful for the undeserved promotion from the rear ranks of Alabama doctors to the highest position within the gift of the organized medical profession of the State, he realizes that in humbly practicing the duties of his chosen vocation in life, he has not developed the qualities of leadership which should be possessed by the president of The Medical Association of the State of Alabama, which functions not only for the promotion of the welfare of the medical profession but also as the Board of Health of a great commonwealth.

EFFICIENT OFFICIALS

Your president takes this opportunity to thank those with whom he has had the privilege of associating during the past year in the effort to carry on the various activities of the Association. The secretary of any medical association is its most important official because he is entrusted with the most arduous duties. This Association is fortunate in having a secretary who, by virtue of his pleasing personality and his professional attainments, as well as his prodigious ener-

gy, is eminently qualified to serve as its executive officer. Dr. Cannon, in anticipating his opportunities for aiding the president in the performance of his duties, and in fulfilling promptly and efficiently his every request, has made the administration of the affairs of the Association for the past year a pleasure and not a burden.

Vice-presidents of medical associations, usually, are figureheads, filling honorary positions, who must wait for presidents to die in order for them to have a chance to serve as chief executives; but in The Medical Association of the State of Alabama the duties of the four vice-presidents are more arduous than those of the president. The several meetings in each of the four regional divisions of the Association during the last year have been well attended, and they have presented excellent programs. These sectional meetings in the summer and winter of each year offer an opportunity for expression by the physicians in the four subdivisions of the Association; and, since there is enough medical material and a sufficient number of physicians, who are qualified to prepare and read papers, it would seem fair and advisable for programs to be confined largely to physicians residing in Alabama.

The various standing committees of the Association have functioned efficiently during the past year and your president would commend particularly each of their chairmen for carrying on important activities in the interim between the annual meetings. Your president admits with regret that the exigencies of practicing medicine have not permitted him to aid the various committees in their constructive efforts during the last year. He feels, however, that the work of the present committees should be continued and encouraged.

POSTGRADUATE INSTRUCTION

At the Mobile meeting last year, the Association wisely decided to arrange for postgraduate courses of instruction for a nomi-

*President's Message to the Association in annual session, Montgomery, April 18, 1939.

nal fee, to be made available to its members at convenient places in various parts of the State. Dr. Ralph McBurney, Chairman of the Committee on Postgraduate Instruction, contacted Dr. Maxwell E. Lapham, Director of Medical Extension of Tulane University, and they were fortunate in securing the services of Dr. V. P. Sydenstricker of Augusta, Georgia, Professor of Medicine in the University of Georgia, and Dr. J. L. Wilson, Associate Professor of Medicine at Tulane University, to conduct a series of courses in general medicine. The Alabama physicians who are wise enough to arrange to take this course of instruction will be better prepared to practice their profession than they would be if they fail to take advantage of this opportunity for keeping abreast with recent advances in the art and science of medicine.

Your President recommends the continuation of these courses of instruction with sufficient appropriation of the Association's funds to enlarge this extension service, so that courses in various other branches of medicine may be available to the physicians of Alabama during the next year.

MEDICAL CARE

It is unnecessary to discuss with physicians the fallacies of socialized medicine. The American Medical Association, through its House of Delegates, has clarified the attitude of the organized medical profession towards compulsory health insurance and other phases of the effort to bring about the government regimentation of physicians. The report of the House of Delegates approves hospital insurance of the type that is being carried on successfully at this time in Alabama. It approves voluntary sickness insurance by insurance companies, and opposes compulsory government health insurance. It calls for increased government appropriations for the prevention of disease to be used by, or in cooperation with, state departments of health. It approves the plans for government appropriations with which to build and maintain hospitals to care for the indigent sick and the low income groups, particularly in the rural areas—these hospitals to be conducted and controlled by local physicians, without political domination of any kind. The American Medical Association approves also the creation of a United States Department of Pub-

lic Health, with a physician as a member of the President's cabinet.

Your president recommends that The Medical Association of the State of Alabama go on record as endorsing the principles of medical care and disease prevention as laid down by the American Medical Association. He also recommends that the Secretary of the Association be instructed to communicate with United States Senators John H. Bankhead and Lister Hill, and the nine Congressmen from Alabama, urging them to support actively legislation providing for increased appropriations for public health; and to provide hospitalization and medical care for the sick among the indigent and low income groups, to be administered by local and state physicians, without political interference. Our Senators and Congressmen also should be urged to support legislation providing for a National Department of Health, with a physician in the President's cabinet; and to oppose government compulsory health insurance in any form.

PUBLIC HEALTH NEEDS IN ALABAMA

The Medical Association of the State of Alabama, functioning as the State Board of Health, has a remarkable record of service in having protected the citizens of Alabama from communicable diseases for the last half century. It elects a State Health Officer in charge of the public health activities of the State. The Association also elects the Committee of Public Health. Thus the State of Alabama delegates to the organized medical profession the power to initiate and carry on all the public health activities in every part of the State, though the State Department of Health is dependent upon the Legislature and city and county governments to provide the necessary funds for disease prevention.

The Department of Health of Alabama has demonstrated its ability to prevent communicable diseases; and our State is many millions of dollars richer today because of a great reduction in the morbidity and mortality from malaria, typhoid fever, hookworm, tuberculosis, pellagra, colitis and the infectious diseases of childhood in the last twenty-five years. More recently the concept of the functions of state departments of health has been broadened to include the prevention of venereal diseases; and now

nutrition is regarded by many as the most important public health problem.

Public health administration in Alabama has been efficient and economical and at no time in the history of the State Department of Health has there been even the slightest suspicion of the misuse of public funds. More money will be required to carry on Alabama's State Health Department if it is to function efficiently in meeting the increasing demands for new and important needs. Disraeli, Britain's great Prime Minister, said: "The protection of the health of a people is the paramount duty of the Government"; and it has been demonstrated that "public health is a purchasable commodity." It is Alabama's duty to provide funds for the protection of the health and lives of its people from the ravages of preventable diseases, and unless the money is forthcoming Alabama citizens will suffer and die from diseases which should not exist in civilized countries.

Our State Committee of Public Health estimates the annual minimum needs for public health conservation in Alabama at \$530,000.00—an increase of \$100,000.00 over last year's appropriation. Your president recommends that the physicians of Alabama assembled in convention in Montgomery adopt resolutions memorializing the Governor and the State Legislature to find the money to appropriate sufficient funds to meet the minimum needs of the State Department of Health.

THE EMERGENCY NEED FOR A FOUR-YEAR
MEDICAL SCHOOL IN ALABAMA

Alabama, rich in resources, wealthy in her fine men and lovely women, proud of the achievements of her physicians, is relatively poor in per capita income; and is downright penurious in her failure to provide hospitalization and medical care for her indigent sick. Mississippi, poorer in per capita income than Alabama, appropriates \$400,000.00 a year to provide hospital and medical care for her indigent sick; while Louisiana, a relatively poor State, recently appropriated \$10,000,000.00 for the construction of a new Charity Hospital and appropriates \$1,000,000.00 annually for the maintenance of Charity Hospital in New Orleans. In addition, Louisiana also supports two four-year medical schools, Tulane University's Medical School and the Medical Department of Louisiana State University.

The State of Alabama allows her indigent sick to die without medical care, but be it said to the credit of the physicians of Alabama that they accept it as a part of their burden to treat the poor in their communities without remuneration or hope of reward. It is not claimed that Alabama's indigent sick are given adequate medical care because doctors cannot buy medicine and provide hospitalization for the poor they treat.

Perhaps the most stupid act of the many delinquencies of Alabama legislators in the last half century was to allow the Medical College of Alabama, the Medical Department of the University of Alabama, to die of starvation. The Medical College at Mobile for seventy years educated Alabama physicians who have had a proud record of service and achievement; yet "penny wise and pound foolish" legislators refused to appropriate sufficient funds to maintain a Class A medical department for Alabama's University and the medical school at Mobile was forced to close its doors. The two-year medical school at Tuscaloosa, on a meagre appropriation, has done excellent work; but its students have been forced to go to other states for the last and the most expensive two years before graduation in medicine. Comparatively few of them have returned to Alabama to live; so that our State, because of its penuriousness, has given young men two to four years of academic training, and the first two years in medicine only to have them locate in other states to practice their profession.

Alabama is now reaping the harvest of the tares sown by stupid politicians twenty and thirty years ago. Citizens of Alabama have sent out of the State, to educate their sons and daughters in medicine, several times as much money each year as would be required to maintain a Class A four-year medical school only to have many of them locate in other states, while hundreds of thousands of farmers in rural districts have to suffer and see their loved ones die because there is not a doctor in twenty or thirty miles of their homes.

Today as the graduates of the Mobile and Birmingham medical colleges, who began practicing twenty, thirty and forty years ago, are dying out, many of them from overwork, there is an acute shortage of doctors all over Alabama, except in the large cities.

In a few years, unless the Governor of Alabama and the State Legislature do their duty to provide funds to establish and maintain a four-year medical school, thus supplying the need for doctors in the small towns and rural districts of the State, thousands of Alabama's citizens and their children will suffer and die for the lack of medical attention.

Of course the Governor and the Legislature are harassed by insufficient income to meet the present expenses of the State government, but that is poor excuse for inaction when the health and lives of thousands of Alabama citizens are to be sacrificed if the present Legislature proves delinquent in its duty to provide for a four-year medical school.

The Uncle Remus stories which were told the writer by his Mother in his boyhood home in Georgia still supply needed humor in serious situations and the necessary philosophy to meet obstacles which seem insurmountable. Uncle Remus told the little boy about the time when "Brer Fox came so close to catching Brer Rabbit that he clum a tree." The little boy said to Uncle Remus: "Don't you know that a rabbit cannot climb a tree?" Uncle Remus replied: "Oh, but dis rabbit was blegged to clime dat tree." Applying the Uncle Remus story: Governor Dixon and the Legislature must find the money for a four-year medical school or go down in history as delinquent in their duty to provide for the medical education of her young men and young women, and thus fail in their opportunity to make physicians available when there is sickness in any part of Alabama.

The Medical Association of the State of Alabama has gone on record repeatedly as favoring the establishment and maintenance of a four-year medical school as a part of the University of Alabama. Your president recommends that The Medical Association of the State of Alabama memorialize the Governor and the State Legislature regarding the needs for the four-year medical school and urge them to get the money, somehow, to establish and maintain a Class A medical school as a part of the University of Alabama.

COMMITTEE ON PHARMACY

Without discussing at length the evils of self-diagnosing and self-prescribing by laymen, the practice of medicine by druggists,

and the prescribing of drugs with patented trade names by physicians, it may be stated as a fact that the manufacturers of proprietary medicines with patented trade names now dominate the practice of medicine in the United States. Doctors prescribe or tell their patients to buy drugs having attractive trade names. The patients do not go back to the doctors who prescribed the trade names when they need more medicine, but they and their friends purchase the drug from the neighborhood emporium, which is one-hundredth part pharmacy and ninety-nine hundredths soda fount, restaurant and novelty store—and too often a bar, where beer and bootleg whiskey are sold to men and women and even to boys and girls.

The gullibility and laziness of many doctors are responsible largely for the fact that they have forgotten how to use United States Pharmacopeia drugs. The great need of rational therapy in the United States is for doctors to refrain from prescribing every new drug, with a patented trade name for which extravagant claims are made, and learn how to write prescriptions for United States Pharmacopeia and National Formulary drugs as they are indicated to suit the needs of each individual patient.

The Council on Pharmacy and Chemistry of the American Medical Association makes a thorough investigation of each new proprietary medicine as it is placed on the market—most of which are old drugs sold under new patented trade names. The physician who adopts the policy of prescribing no drug that has not been approved for use by the Council on Pharmacy of the American Medical Association will serve his patients best; and by so doing will aid in remedying the present deplorable condition of the empirical, "hit and miss"—usually miss—use of expensive drugs with patented trade names.

Many state medical associations have committees on pharmacy which cooperate with similar committees of state pharmaceutical associations, in an effort to educate the medical profession in the use of United States Pharmacopeia and New and National Formulary drugs; and to develop in the medical profession a healthy sales resistance to the insidious propaganda disseminated by those who make money selling expensive drugs which often have not the merit of the inexpensive and pure U. S. P. and N. N. F. drugs.

The Committee on Pharmacy of the New Jersey State Medical Association, in cooperation with a similar committee from the New Jersey Pharmaceutical Association, has done a particularly good piece of work in restoring the practice of medicine to the doctors of their state; and in reducing counter prescribing by druggists.

Your president recommends the appointment of a Committee on Pharmacy to function, without expense to the Association, similar to that of the New Jersey State Medical Association. Data regarding the work of the New Jersey Committee will be submitted to the State Board of Censors.

BICHLORIDE OF MERCURY SUICIDES

Less than a month ago the writer witnessed a tragedy in the death of a lovely young woman, who, in a fit of despondency, swallowed three bichloride of mercury tablets with suicidal intent. She had bought the tablets over the counter in a drug store. In the last few years the writer has treated three other cases, two women and one man, who, in moments of temporary mental depression, swallowed bichloride of mercury to end their imaginary, or exaggerated, troubles. Two of the three who recovered, in five minutes after taking the poison, regretted their hasty action and are today leading useful lives. The third who recovered is a woman, an alcohol habitue, and in fits of despondency following debauches has repeated the attempt at self-destruction.

It appears from newspaper reports that the favorite method of successful, and attempted, suicides is the use of bichloride of mercury. The most important reason for the use of this poison is that any man, woman, boy or girl can buy bichloride of mercury tablets over the counter in drug stores without a physician's prescription. Another reason is that death from bichloride of mercury tablets is supposed—erroneously—to be painless. The writer knows of no more painful and distressing symptoms than the abdominal pain, retching and purging which the bichloride of mercury victim experiences for the first few days after taking the tablets; and the public should be informed of the horrible suffering, both physical and mental, after taking bichloride of mercury.

It is believed by thoughtful physicians that bichloride of mercury is no longer

needed in the practice of medicine, and that its use in solution as a douche, or as a wash for the hair, is a dangerous procedure. Bichloride of mercury has no place in the family medicine chest, and we know of many sad deaths reported from accidental poisoning by mistaking bichloride tablets for headache tablets, etc. The use of bichloride of mercury as an antiseptic has been replaced by less dangerous drugs; therefore its use by physicians should be discouraged and its use by laymen should not be permitted.

Your president believes that if state and national legislation is enacted providing for the sale of bichloride of mercury only on a physician's prescription, not to be repeated except by a new prescription each time the drug is dispensed, that deaths from suicide and accidental poisoning will be reduced materially both in the State and the Nation. He therefore recommends that The Medical Association of the State of Alabama go on record as approving legislation providing for the sale of bichloride of mercury, in any form, only on prescription by physicians who are registered to prescribe drugs according to the Harrison Antinarcotic Act.

PROMISCUOUS USE OF THE BARBITURATES THEIR USE IN SUICIDES

The following resolution was introduced at a meeting of the American Medical Association in 1937:

"The evils of these drugs include habit formations, toxic cumulative action, their substitution for alcoholic beverages for drunken episodes, their use for successful as well as unsuccessful suicidal attempts, their improper use being a recognized causative factor in many motor accidents and their improper use being a recognized etiology factor in some criminal assaults . . ."

The Board of Trustees and the Council on Pharmacy and Chemistry of the American Medical Association invited Dr. W. E. Ham-bourger to investigate the evils resulting from the promiscuous use of the barbiturates. The following excerpts from his report (J. A. M. A., page 1340, April 8, 1939) show the seriousness of self-prescribing and drug store practice of medicine as related to the unrestrained use of the barbiturates:

1. More than 1,200,000,000 grains of barbituric acid derivatives were sold in the United States in 1936.

2. The total number of suicidal deaths by the barbiturates in the United States in 1936 was probably close to 300. The probable number in 1937 may have approached or even exceeded 400.

3. For the five years 1932-1936 the national incidence of suicides by barbiturates represents 4.2 per cent of all poisons (except gases) and 0.66 per cent of all methods used for suicide.

4. In seven large cities and their associated counties, for the decade 1928-1937, barbiturates represent 8.1 per cent of suicides by all solid and liquid poisons and 1.25 per cent of all methods used for successfully committing suicide.

Careless prescribing of phenobarbital, luminal, amytal and other barbiturates by physicians is the basic cause of the serious situation today resulting from the use of the barbiturates. Physicians have told their patients to go to the drug store and buy the tablets containing these toxic drugs until they have learned that they can get them cheaper than when purchased on a doctor's prescription. Then they and their friends drug themselves with these sedatives for all sorts of ailments.

Without going into a discussion of the dangers from the improper or excessive use of the barbiturates, it is enough to say that it is high time for the medical profession to take steps to limit the use of the barbiturates by the public. Your president, therefore, recommends that The Medical Association of the State of Alabama adopt a resolution (1) condemning the careless and indiscriminate use of the barbiturates by physicians; and (2) approving legislation providing for the sale of barbiturates only according to the provisions of the Harrison Antinarcotic Act.

MEDICAL SHRINES IN ALABAMA

The erection of a statue to commemorate the achievements of James Marion Sims, and its unveiling at this meeting, fulfills a duty which our State has neglected for many years. Montgomery is as much the "Cradle of Gynecology" as it was the "Cradle of the Confederacy."

The inscription on this monument will be read by generations now unborn and it will serve to keep alive the memory of a great benefactor of mankind, a man who had been an humble country doctor, and who, after he moved to Montgomery nearly a century ago, achieved epoch-making advances in surgery. This monument also will serve to remind those who visit this medical shrine in the years to come of the heroines, three

faithful slaves, Anarcha, Lucy and Betsy, who submitted, without anesthesia, to the many operations performed upon them by Marion Sims before he perfected the operation which made him famous the world over and gave him for patrons emperors and kings. Those who knew Marion Sims, the Southern gentleman, said that he was as kind to and as considerate of the feelings of the three slaves, whom he supported out of his meagre income for years in the effort to relieve their sufferings, as he was in treating Empress Eugenie of France and other royal patients.

While Sims was born in South Carolina, and later founded the Woman's Hospital in New York City and became the most celebrated surgeon of his time, it was in Montgomery that his genius as a surgeon was developed, and it was in this city that he made the discoveries upon which his greatest claims for fame and immortality rest. It therefore is fitting that one of the most important medical shrines in the world should be located in the capital city of Alabama.

Your president would remind the Association that the Sims monument would never have been erected but for the unceasing efforts of Dr. James R. Garber, Chairman of the Sims Monument Committee, and Drs. T. B. Hubbard, Marcus Skinner, J. D. Perdue, and Harry Simpson, also members of the committee. The Association appropriated one thousand dollars towards the fund to erect the Sims monument, Dr. Garber and his committee raised an additional six hundred dollars and the United States Department of Public Works added approximately \$4,700.00. There yet remains approximately \$200.00 to be raised. This amount should be liquidated at this meeting, either by popular subscription or from Association funds.

There was not sufficient funds to provide for a granite or marble pedestal for the beautiful bronze statue of Sims at the time it was erected so that a temporary base of concrete was used. At some future date, when the proposed plans for the public buildings and grounds surrounding the Capitol grounds are carried out, the State should purchase a granite pedestal for this magnificent monument.

A MEDICAL HISTORY OF ALABAMA

In 1925 Dr. J. D. Heacock in his Presidential Address recommended that a committee

be appointed to secure historical data regarding the achievements of distinguished Alabama physicians. The matter was discussed but was not acted upon. The time seems propitious to begin the accumulation of data for the preparation of a medical history of Alabama. Mrs. Marie Bankhead Owen, the brilliant and capable Director of the Department of Archives and History of the State of Alabama, recently appealed to the public to send her old letters, original manuscripts, and other personal effects of historic value which have been preserved by the families of Alabama's celebrated men and women. Such relics should be kept in the new fire-proof Archives building where they may be available to those interested in biography and history in Alabama.

Fortunately a number of eminent physicians in Alabama are interested in medical history. Dr. W. G. Harrison, distinguished otolaryngologist of Birmingham, Professor of Medical History in Vanderbilt University, has collected much important data relevant to the lives of Alabama physicians, which should be the basis for a volume on "The Medical History of Alabama" and also for a much needed medical history of the South.

State Health Officer, Dr. J. N. Baker, Dr. Douglas Cannon, Secretary of the Association, and their associates, are preserving the records of Alabama physicians in the archives of the State Department of Health. Dr. Stuart Graves, Dean of the Medical Department of the University of Alabama, has collected much valuable material that is available for use in preparing a history of the medical profession of Alabama. Dr. E. B. Carmichael, Professor of Biochemistry of the University of Alabama, is gathering facts regarding the physicians of our State which may be used by any one who may undertake the intriguing task of writing a medical history of Alabama; and Dr. Toulmin Gaines, an ex-president of the Association and a former member of the faculty of the Medical Department of the University of Alabama, has accumulated much valuable information regarding the lives of Mobile's distinguished physicians.

Your president recommends the creation of a Committee on Archives and Medical History. This committee should consist of five physicians, from different sections of the State, who are interested in the preservation of the ideals, the achievements and

the traditions of Alabama physicians whose names and fame should adorn the pages of history. Such a committee, working with the Director of the State Department of Archives and History, the State Board of Health, the University of Alabama and the Woman's Auxiliary of The Medical Association of the State of Alabama, should collect and correlate data from which an accurate and creditable history of medicine in Alabama may be written. No appropriation of the Association's funds is contemplated in this recommendation. The members of this committee no doubt will be willing to serve without remuneration.

MEMORIAL STAMPS

The Post Office Department, after years of the use of pictures of military heroes and presidents on postage stamps, has decided to follow the custom of certain European countries and commemorate the achievements of its great men of letters and science. It is interesting to note that among physicians and dentists there are only four on the list: General Gorgas, Walter Reed, W. G. T. Morton and Benjamin Rush.

Considering the fact that there are six or eight times as many stamps commemorating literary men, it would seem wise to include a few more pioneers in medicine, as, for example, Ephraim McDowell, James Marion Sims and Crawford W. Long. At this late date it would be impossible to change the verdict of medical history and give Long his rightful dues. At the same time, his face should appear, if not on an individual stamp, at least on the same stamp as Morton. Long, of Georgia, actually used ether anesthesia four years prior to Morton's demonstration in Boston.

Your president recommends that the Secretary of the Association be instructed to send a letter to the Postmaster General urging the inclusion of McDowell, Sims and Long for the stamp series; and that a copy be transmitted to the American Medical Association, the American College of Physicians, The American College of Surgeons, The American Surgical Congress, The Southern Surgical Association, The Western Surgical Association, The Southeastern Surgical Congress and The Southern Medical Association with the recommendation that they also take up this subject with the Postmaster General.

CITATIONS FOR CLINICAL INVESTIGATIONS ON
PELLAGRA

The American Association of Physicians at its meeting in New Orleans three weeks ago awarded a prize of one thousand dollars to Dr. Thomas Spies for his researches on pellagra. The clinical investigations on pellagra, including the use of nicotinic acid by Dr. Spies, were carried on partly in Birmingham, associated with Drs. James B. McLester, James S. McLester and others of the staff of the Hillman Hospital in Birmingham; in Fairfield, associated with Dr. Groesbeck Walsh and the medical staff of the Employees' Hospital; and in Tuscaloosa associated with Dr. W. D. Partlow and other members of the staff of the Bryce Hospital. It would seem fitting that The Medical Association of the State of Alabama should present to Dr. Spies a suitable scroll, or parchment, on which is inscribed a summary of his distinguished achievement in demonstrating the value of nicotinic acid in the treatment of human pellagra, and for other meritorious clinical investigations on the disease. An expression of appreciation to Dr. Spies for his work should be included in the citation.

The late Dr. George Searcy was never accorded sufficient recognition for one of the most important contributions to American medicine. He not only recognized and described the symptoms in the first outbreak of pellagra discovered in the United States but he was the first—and many believe the only—American physician to produce pellagra experimentally in human beings. Searcy's experimental work, strange to say, is never referred to in the literature on pellagra.

George Searcy's death in the prime of life was an irreparable loss to the medical profession of Alabama. A citation from The Medical Association of the State of Alabama cannot add to his place in medical history; but bestowing such an honor to him posthumously may be a comfort to his family, and it would inspire other physicians to emulate the example of one of the noblest and most distinguished men Alabama has produced.

In awarding citations to Alabama physicians for meritorious clinical investigations Dr. E. L. McCafferty, the physician in charge of the Alabama Hospital for Insane Negroes from 1906 to the present time, should not be forgotten. Dr. McCafferty

made experiments in the Mt. Vernon Hospital in 1907 and 1908 which proved that pellagra is not transmissible from person to person. A decade later Goldberger, Francis and Wheeler carried out similar experiments which confirmed McCafferty's experiments with the same results which he had obtained ten years before. The Medical Association of the State of Alabama should perform a delayed duty in formally expressing appreciation to Dr. McCafferty for his researches on pellagra.

Your president recommends that The Medical Association of the State of Alabama award suitable citations to Dr. Thomas D. Spies, Dr. George Searcy and Dr. E. L. McCafferty as an expression of appreciation for their researches and clinical investigations on pellagra. He also recommends that a committee consisting of three members of the State Board of Censors be appointed to prepare citations to be presented to Drs. Spies, Searcy and McCafferty; and that this committee present the scrolls, with the citations, to Dr. Spies at a meeting of the Jefferson County Medical Society; the citation to Dr. George Searcy to Mrs. George Searcy at a meeting of the Tuscaloosa County Medical Society and the one to Dr. McCafferty should be presented to him at a meeting of the Mobile County Medical Society. It is further recommended that sufficient funds of the Association be appropriated to defray the expense of purchasing the scrolls, or parchment, and for inscribing the citations on them.

CITATION TO DR. L. L. HILL, PIONEER IN CARDIAC
SURGERY

At the recent session of the Southeastern Surgical Congress held in Atlanta, its President, Dr. Hal Davidson of Atlanta, in discussing the achievements of Southern surgeons, mentioned the names of Ephraim McDowell, Marion Sims and a few other surgeons who have become immortal in the annals of American surgery. The only living man whose name he mentioned in his galaxy of Southern surgeons was Dr. L. L. Hill of Montgomery who was the first American surgeon to operate upon a human heart. Dr. Hill had the courage to save a human life by performing an operation on the heart, suturing a knife wound in the left ventricle in 1902. The negro is still living and in good health.

Surgeons the world over give credit to

Dr. Hill for performing successfully the first operation on the heart ever attempted in the United States; and books on surgery continue to quote the principles laid down by him in 1902 to be used as a guide in considering the indications for surgery in injuries of the heart. The technic as employed by Dr. Hill in this emergency operation on a negro boy in a log cabin, by lamp light, is still employed by surgeons in cardiac operations.

The Medical Association of the State of Alabama has never given Dr. Hill official recognition for his surgical achievement. It would seem that this duty should not be deferred any longer; and your president recommends that the committee appointed to prepare and confer citations be instructed to bestow this honor upon Dr. L. L. Hill, at a meeting of the Montgomery County Medical Society.

ADVICE TO YOUNG DOCTORS

Appropriately placed on the walls of the original library in the Johns Hopkins Hospital were a number of brass plaques on which were inscribed aphorisms, or proverbs, from the literature of various nations. No doubt they were selected by William Osler, a great philosopher as well as the ablest physician of his time, as inspirational epigrams for use in teaching high ideals to the students of medicine in Johns Hopkins University. In the summer of 1906, while engaged in postgraduate work in Johns Hopkins Medical School, the writer was so impressed with some of these aphorisms that he memorized them. One in particular, of anonymous origin, but supposedly an East Indian proverb, impressed him. It is quoted from memory and it is in the spirit of the sentiment expressed in this aphorism that some advice to young physicians is given.

But Once

"We shall pass through this world but once.
Therefore, if there is any good that I can do,
Or any kindness that I can show to any human being,
Let me do it now;
For I shall not pass this way again."

The physician's duty does not end with prescribing diets and medicines and the general care of his patient. He should never miss an opportunity to prevent other members of the same family from contracting the disease he is treating in one of its members.

This principle practiced by true physicians elevates the medical profession far above commercialism, and it makes the doctor a humanitarian who places public welfare before personal profit. The history of the medical profession in the prevention of disease thrills with acts of heroism, and men like Carlos Findley, Walter Reed, William Crawford Gorgas, Henry Rose Carter, Agramonte, Lazear and Carroll are now among the immortals in medical history because they hazarded their lives to eradicate yellow fever. No less heroic is the country doctor or the city specialist who risks his life and contributes his time to prevent his patrons from acquiring endemic or epidemic diseases.

The physician with experience of twenty or thirty years, who has practiced "the cardinal principle in the treatment of disease, i. e., finds the cause and removes it," should have learned from the misfortunes of his patients that violation of laws of personal hygiene like "the paths of glory, lead but to the grave." He likewise should have learned that "the paths of rectitude" lead to success, happiness and longevity. Habits and ideals formed during the first ten years of a physician's professional life determine whether he will be a success, and enjoy a long and useful career, or become the wreck of a man before he is fifty years of age, if he has not paid the full penalty for violating the inexorable laws of physiology before that time.

RATIONAL THERAPY

My admonition to young physicians in treating each patient is to seek first the full scientific truth regarding the causes of the disease, and study the pathology and pathologic physiology of every organ, or system, involved in each individual case; and, after the diagnosis has been made, be sure that the treatment is rational, meeting the indications to relieve the symptoms and cure the patient. Above all things, be sure that the remedies given cannot injure the patient.

Dr. S. Wier Mitchell, the greatest American neurologist, once said: "The best doctors of all time have been those who regulate the lives of their patients so that they can be restored to, and maintain, health." Wier Mitchell depended upon mental and physical rest, regulated exercises when indicated, dietary management, and psychotherapy rather than the use of drugs in the

treatment of nervous diseases.

Every young physician should read Charles Reid's novel, "Put Yourself in His Place," and apply the moral of the story in his every day practice. Knowing the patient's condition, the physician should treat him as he would want to be treated under the same circumstances. Always tell the patient the exact truth regarding his condition. The writer has never found an occasion when it not only was right but best to inform the patient, or, in the case of incurable cancer or other hopeless disease, tell the patient's family, all the facts regarding his illness. It is only by honest dealing with a patient that the physician can gain his confidence. Winning the patient's confidence is half the battle in treating the sick; and in most cases the *vis medicatrix naturae* will do the rest, if not tampered with too much. The sick-room attitude of a physician, a pleasing personality, which in other words means being a gentleman always, is a valuable asset in the art of treating patients. In dealing with the sick "a merry heart doeth good like a medicine." The fact is that in treating the great majority of patients medicines may be dispensed with altogether, or, if used at all, they play a minor part in the cure of the patient.

The young physician who develops a healthy skepticism regarding the value of drugs—particularly proprietary medicines with patented trade names—has profited by the accumulated knowledge of medicine; while the doctor who has blind faith in drugs has failed to learn the lesson from experience and history that ninety-nine out of every hundred remedies used as specifics at various times have been thrown into the scrap heap of discarded nostrums, usually within less than a decade after they were exploited by mercenary drug manufacturers.

THE MEDICAL SOCIETY HABIT

The young doctor should form the medical society habit. He should attend monthly or weekly meetings of his County Medical Society and should plan to attend the annual meetings of his State, the Southern and American Medical Associations each year. Likewise he should read carefully each copy of the Journals of the State, Southern, and American Medical Associations. A physician cannot go to a medical meeting and listen to the papers read without learning

something about medicine that he did not know before; and only by reading medical journals can he keep abreast with medical progress.

What one learns from papers and discussions is only a part of the benefits derived from attending medical meetings. Of even more importance is the privilege of associating with other physicians, including the leaders in all branches of medicine. Physicians are the best educated men in any of all the professions, the great majority of them are cultured gentlemen, and they have high ideals. Contacts with such men at medical meetings serve to stimulate young men to improve their methods of treating the sick and stimulate them to form a nobler concept of the duties and opportunities of physicians in the practice of their profession.

OSLER'S PHILOSOPHY

The physician not only should know the science of medicine but in order to practice the art of his profession he should become a psychologist and a philosopher. He should build ideals and live by them.

For developing the philosophic and psychologic approach to the practice of his profession the young physician should read the essays and addresses of Sir William Osler, who, as Professor of Medicine of Johns Hopkins University and author of Osler's textbook on medicine, exerted the most profound influence on the science and art of medicine in the English speaking world of any man that has lived. By all means read and reread "The Alabama Student," "Equanimitas" and other philosophic essays and addresses by Osler which enrich English literature.

Perhaps the most valuable of Osler's addresses for the young physician to study is "A Way of Life" which he delivered to a graduating class at Yale University. If "A Way of Life"—which may be read aloud in thirty minutes—were read and reread by every young man and young woman in the Nation, until its philosophy and psychology become a part of their lives, life in our glorious country would be "a long happy dream." The young physician, in particular, may profit by possessing, as his own, to be kept, read and reread from time to time all his life, the little booklet "A Way of Life."

Briefly, Osler, like John Ruskin, teaches

serenity, self-control and right living as the "open-sesame" to efficiency, happiness and long life. He shows how one may attain control of the action of his mind so that there is no wasted mental motion; he warns of the dangers of mental and physical habits which weaken—in many cases destroy—the health, happiness and even the lives of those who live in what might be called a "fool's paradise."

A poem from the Sanskrit which prefaces Osler's "A Way of Life" sums up the philosophy of the East as applied to the joy of living. Wise is the young physician who can live each day for itself, forgetting the mistakes and the disappointments of the days that have passed, and face the problems of the living present, unafraid of the future.

The Salutation of the Dawn

Listen to the Exhortation of the Dawn!
Look to this Day!
For it is Life, the very Life of Life.
In its brief course lie all the Varieties and
Realities of your Existence:
The Bliss of Growth,
The Glory of Action,
The Splendour of Beauty;
For Yesterday is but a Dream,
And Tomorrow is only a Vision,
But Today well lived makes
Every Yesterday a Dream of Happiness,
And every Tomorrow a Vision of Hope.
Look well, therefore, to this Day!
Such is the Salutation of the Dawn.

Osler, in incisive language, lays wide open to reason some of the follies of life in this so-called "enlightened age." No one has given better advice to young men than did Osler in the following paragraph:

"The young man who feels, on awakening, that life is a burden or a bore has been neglecting his machine, driving it too hard, stoking the engines too much, or not cleaning out the ashes and clinkers. Or he has been too much with Lady Nicotine, or fooling with Bacchus, or worst of all, with the younger Aphrodite—all messengers of strong prevailment in unhardened youth. To have a sweet outlook on life you must have a clean body."

TOBACCO AND EFFICIENCY

Osler's indictment of tobacco as the foe of efficiency should be remembered before the habit of smoking becomes too strong to break. He said:

"A bitter enemy to the bright eye and the clear brain of the early morning is tobacco when smoked to excess, as it is now by a large majority of

students. Watch it, test it, and if need be, control it. That befogged, wooly sensation reaching from the forehead to the occiput, that haziness of memory, that cold-fish like eye, that furred tongue, and last week's taste in the mouth—too many of you know them—I know them—they often come from too much tobacco."

Another Professor of Johns Hopkins, Dr. Raymond Pearl, in an article in *Science* (87: 216-217, 1938) on "Tobacco Smoking and Longevity" said:

"Studies were made of 2,094 non-users of tobacco, 2,814 moderate smokers, and 1,905 heavy smokers, making a total of 6,813 men. For these complete life tables from the age of 30 onto the end of life span were made. They prove that moderate smokers are definitely shorter lived than the total abstainers from tobacco. They prove that the life table for heavy smokers definitely is worse than for heavy drinkers up to the age of 60. Thereafter, to the end of the life span the heavy smokers do a relatively better job of surviving than the heavy drinkers. But neither group has anything to boast about in the matter of longevity."

The fact that a very large proportion of physicians, including many of the greatest men in medicine, smoke cigarettes does not mean that nicotine is not a toxin of the harmful, habit-forming narcotic group; nor does it prove that smoking promotes health, efficiency or happiness. A successful farmer in Clay County, Alabama, became addicted to the use of morphine at the age of 18 and he used the drug every day of his life thereafter until he died at the age of 94. He reared and educated a large family and today his children and grandchildren are the leading citizens of their community. Would any one argue that the morphine habit is not harmful because a good and useful man was a morphine habitue for 76 years and outlived his neighbors?

In this connection, young physicians should be admonished to think for themselves and to form their own opinions without prejudice from cold scientific facts and from their own observations, without being misled by so-called medical authorities. The young doctor who has learned the fundamentals of medicine and can view facts with an open mind is more apt to be right in his conclusions than his college professors, many of whom, blinded by prejudice or pre-formed opinions, have become reactionaries in thought and in their teachings.

"There are none so blind as those who will not see," and just about the meanest trick of

human nature is that a man, or woman, who has become a habitue of morphine, alcohol, or nicotine, not only believes that the drug he uses is harmless, but he often succeeds in getting his family and some of his friends to become addicted to the particular narcotic which soothes his nerves. It is said that the physician addicted to morphine leaves an average of seven opium addicts behind him when he dies. Certainly the opinion of a man who is habituated to the use of morphine, alcohol or nicotine may be regarded as ex-parte evidence, prejudiced by the unconscious desire to condone his own shortcomings. I have had young girls as patients who said that prominent physicians who are nicotine habitues themselves had told them to smoke cigarettes, that it was good for the nerves.

TOBACCO AND ADULT DISEASES

I realize that my opinion on the harmfulness of the nicotine habit is of no consequence; but recent scientific studies on the physiologic effects of smoking cigarettes prove to the unprejudiced student that nicotine is a vasoconstrictor, the continued use of which over a period of years cannot fail to have an obliterating effect on the terminal arterioles of the heart, brain and extremities. Webster defines nicotine as "a very poisonous alkaloid, $C_{10}H_{14}N_2$, the active principle of tobacco"; yet college professors, doctors, ministers and other highly educated people are as ignorant today of the physiologic effects of tobacco as were the savage Indians from whom civilized man learned how to smoke four centuries ago.

Some of the penalties of smoking may be mentioned. Recent studies of the Mayo Clinic on the physiologic effects of tobacco on the eye showed narrowing of the lumen of the retinal arteries after smoking one or two cigarettes. This accounts for the functional diseases of the eye—the amauroses, diplopias, etc., so frequently seen in those who use tobacco. It also explains the organic changes found in the retinal vessels after smoking for twenty or thirty years. Dr. Joseph Bloodgood of Johns Hopkins, an authority on cancer, said that he never saw cancer of the lip or tongue except in a smoker. Dr. Alton Oschner, Professor of Surgery, Tulane University, blames the increase of cancer of the lungs on cigarette smoking.

TOBACCO AND DISEASES OF THE HEART AND ARTERIES

Recently, in an address on heart diseases, Dr. Virgil Simpson, Clinical Professor of Medicine, University of Louisville, showed on the screen an electrocardiogram of a man who died of coronary occlusion; and then another electrocardiogram showing identical findings made from the heart of a healthy man after smoking five cigarettes. Dr. Simpson said: "If smoking five cigarettes by a healthy man in one day will produce the same changes in the heart's action as are found in coronary heart disease—the most common cause of sudden death—what may be expected from using tobacco over a period of twenty or thirty years?"

I have seen too many smokers, nicotine habitues, die from coronary occlusion not to believe that the excessive and long continued use of tobacco in cigarettes, cigars, pipes, chewing tobacco or snuff, over a period of many years, is one of the most frequent causes of sudden death. I have had a number of men patients, victims of what is called angina pectoris, who left off tobacco for several months, and in one case two or three years, with relief of symptoms, which returned when they resumed the use of tobacco. In several cases they again left off tobacco and the symptoms subsided, and after they resumed smoking they died suddenly from coronary disease, or angina pectoris.

I have seen many smokers among men who died of angina pectoris or coronary occlusion but can recall only three women who died suddenly. Two of these died following acute illnesses and the third, a woman, sixty years of age, died suddenly in the hospital. The autopsy showed that she died of coronary occlusion. The pathologist who performed the autopsy said that coronary disease among women is extremely rare. This woman used snuff.

It does not seem a mere coincidence that coronary disease and the use of tobacco have been much more frequent in men than in women in the past; and it is predicted that one of the penalties that gullible women will pay for the folly of smoking will be a great increase of coronary disease among them; and in two or three decades of smoking, sudden deaths among women will become as frequent as it is among men today.

High blood pressure in many cases is due

to spasm of the arterioles throughout the body. Tobacco is a vasoconstrictor and experimental studies at the Mayo Clinic showed a slight rise in arterial tension after smoking. Of course, the use of tobacco is not the only cause of the changes in the arterioles which result in hypertension; but I have seen so many patients whose blood pressure was reduced after they were persuaded to stop smoking that I am convinced the use of tobacco for twenty or thirty years is one of the outstanding causes of cardiovascular diseases.

Silbert in studying 1,000 cases of Buerger's disease, thrombo-angiitis obliterans, found that every one of them used tobacco. Three hundred nine (309) cases were improved when they left off tobacco. Of those who continued to smoke none improved and many lost one, or both legs and some their lives, because of being slaves to tobacco.

THE FOLLY OF WOMEN SMOKERS

Lord Berkeley Moynihan and Tyrrell Gray, great English surgeons, Eusterman of the Mayo Clinic, Frank Lahey of Boston, Boles of Philadelphia and many other American clinicians believe that the use of tobacco is a common cause of ulcer of the stomach and duodenum, a frequent disease. Formerly there were ten cases of gastric and duodenal ulcer in men to every one case in women. Foolish women who smoke are having ulcer of the stomach and duodenum much more frequently than did their sisters and mothers one or two decades ago who were too wise to take up the vices of men.

Cigarette smoking among women is of serious import, and it is making the practice of medicine more difficult. Women have more time to smoke and it is not unusual to have "nervous wrecks," among society women in particular, give a history of smoking 30 to 60 cigarettes a day. In such cases there is no hope of improvement if the physician cannot persuade the victim to stop smoking. If a physician does not believe that nicotine is a habit forming narcotic let him try to stop a woman from smoking.

Heretofore, women have been the restraining influence in keeping boys and girls from taking up the vices of their fathers; and women influence the lives of their children to a far greater extent than do their husbands. All toxins, including nicotine, are far more injurious to children than adults;

and boys and girls of five and six years old, believing that what their mothers do is right, and with cigarettes lying all around the house when their mothers and fathers smoke, are now forming the cigarette habit; and nicotine-soaked parents think it is smart for their children to smoke. Physicians should point out these facts to smoking mothers, and to girls and young women who dream of the God-given privilege of watching a babe grow and develop into perfect manhood or womanhood.

READER'S DIGEST ON CIGARETTES

The Reader's Digest (November 1938, page 45) in a brief but illuminating article on "Cigarette Holders Put to the Test" has the courage to give some facts regarding cigarettes which should be known to physicians as well as the public. The following is from the first paragraph:

"From the way we Americans smoke cigarettes—162 billions a year, nine times as many as in 1915—one might assume we thought them harmless. Yet we must be uneasily aware that the stuff which destroys potato bugs can't be too good for us, that Lady Nicotine, two drops of which can kill a dog, should be wooed with caution."

Experiments conducted by Dr. Bernard Oser for the Reader's Digest showed that the new patented and expensive cigarette holders reduced the amount of nicotine by varying amounts from 36 per cent to 78 per cent; but there is no danger of these foibles of fashion becoming popular, because smokers have to consume twice as many cigarettes to get their daily doses of nicotine, and they soon throw the holders away. Smokers will not admit it, but the reason that they spend from \$75.00 to \$150.00 a year on cigarettes is because they have a narcotic habit which enslaves them as surely as the smoking of opium does the heathen Chinese. Nicotine, the active principle of tobacco, is a much milder narcotic than morphine, derived from smoking opium, but it belongs to the same habit forming class of toxins.

ECONOMIC ASPECTS OF SMOKING

When the effects of tobacco on the human body are considered, and also the fact that every smoker, during the twenty or thirty years while he poisons himself slowly with nicotine, contributes at least \$1,000.00 to plutocratic tobacco manufacturers, it is evident that Barnum's estimate of "a sucker born every minute" is much too low. As a

result of the high powered advertising campaign to teach women and girls to smoke, the use of cigarettes has increased ten fold; and an estimate of "a sucker born every second" does not overestimate the number of gullible men, women and children who have "swallowed the bait, hook and line" of tobacco manufacturers. Tobacco would not be used by civilized people if it were not that the manufacturers and advertisers of cigarettes and other forms of tobacco propose to make money, without regard to whether or not the product they manufacture and advertise is harmful to, and shortens the life of, those who form the nicotine habit.

The young physician, before he becomes an abject slave to tobacco—and therefore incapable of forming an unbiased opinion on the physiologic and pathologic effects of nicotine—should study recent clinical investigations regarding tobacco as a cause of disease. In making his case histories he should record the number of cigarettes, or the amount of tobacco in any form which the patient uses, and then try to persuade the victim to give up tobacco. Usually he will see marked improvement in those who are wise enough to follow his advice; and, if he is not a tobacco addict himself, he will find what a "strangle hold" tobacco has on the great majority of its victims, many of whom admit that they would risk being sick, or hazard life itself, rather than give up the use of tobacco.

When the above facts are remembered, Professor Raymond Pearl's studies are even more convincing that the use of tobacco, even moderately, decreases longevity and that the excessive use of tobacco shortens life very materially.

THE PERILS OF SOCIAL DRINKING

Osler in "A Way of Life" laid down the only safe plan to avoid becoming a victim of alcohol. He said:

"To drink, nowadays, but few students become addicted, but in every large body of men a few are to be found whose incapacity for the day results from the morning clogging of nocturnally flushed tissues. As moderation is very hard to reach, and as it has been abundantly shown that the best of mental and physical work may be done without alcohol in any form, the safest rule for the young man is that which I am sure most of you follow—abstinence."

Dr. W. H. Welch, of Johns Hopkins, was the recognized greatest pathologist in the

history of American medicine; and he certainly was the ablest medical statesman that has lived in the United States. Every young physician should read Welch's article on the "Pathology of Alcoholism" before he takes the first, or another, drink of beer, wine, whiskey or other alcoholic beverage.

In an address W. J. Mayo delivered to the young physicians of the Mayo Clinic and Mayo Foundation, he made a statement which should be pondered over by a young physician before he indulges in social drinking. He said:

"William Allen White is of the opinion that three out of ten who take alcoholic drinks, like whiskey and brandy, become addicted to the use of liquor; that is, they become steady drinkers, by common parlance, "addicts." Of course, not all of them become what we term drunkards. But they find it nearly impossible to break themselves of the habit and the result may be deterioration and unhappiness which bear heavily on the family and the family's future."

"The 70 per cent of drinkers who do not become addicts in the sense that we ordinarily understand the term, as well as the addicts, sometimes develop changes in the liver and the vascular and nervous systems later in life, which we have reason to believe are a late result of alcohol."

"The medical man faces the extraordinary advances which day by day make medicine the most fascinating of all the professions or occupations and his responsibility to the people, because of the nature of his calling, is greater than that of the worker in any other field. Can he, of all men, afford to take a 30 per cent chance of becoming an alcohol addict?"

Charles Mayo in his "President's Address" delivered to the American Medical Association in 1917 said of the use of alcoholic beverages in medicine:

"No one, unless the policeman, sees more of the results of over-indulgence in alcohol, demonstrated by poverty, sickness, immorality and crime, than the physician. Medicine has reached a period when alcohol is rarely employed as a drug, being displaced by better remedies. Alcohol's only place now is in the arts and sciences."

Dr. T. D. Crothers, the author of a book on inebriety and a recognized authority on drug addiction, made a startling statement at a meeting of the American Medical Association in 1896, which no one contradicted, when he said:

"Forty per cent of the doctors of the United States become addicted to the use of alcohol and opium—one or both, usually alcohol first and then morphine—before they reach the age of fifty years."

I am sure that at the time Dr. Crothers was talking there were several counties in Alabama in which at least fifty per cent of the doctors over fifty years of age were alcohol and, or, opium habitues.

The medical profession has made wonderful strides in every way since Dr. Crothers' time. The Harrison Antinarcotic Act has been the restraining influence which has reduced morphinism almost to the irreducible minimum; and alcohol addiction among physicians is now relatively rare; but thoughtful physicians see the trend towards a return to the old days when people used to say: "I would rather have Dr.—— treat me when he is drunk than any other doctor when sober." Now they say: "I would like to have Dr.—— but he drinks."

COLLEGE BRED FAILURES

I have never seen a well prepared physician, who was sober and industrious, who failed to make a success in the practice of medicine; but at least nine-tenths of the failures of doctors whom I have known—many of them highly educated men, and graduates of the best medical colleges in the land—resulted from alcoholic inebriety, which always had its genesis in social drinking.

W. J. Mayo said that all of his classmates who drank excessively in college were dead before sixty, and most of them were failures as physicians. More than twenty-five per cent—think of it, one out of every four—of my classmates both in academic and medical schools in the "gay nineties" are dead or have become moral and physical wrecks because of drink. In 1910 the dean of the school of arts and sciences of a well known university found, in compiling data for the alumni register of his institution, that at least twenty-five per cent of the graduates of that institution before they reached the age of fifty were dead, or were failures in life because of alcohol. There is much less drinking in college now than a quarter of a century ago, but there is just as much ignorance today among college professors and students regarding the fact that ethyl alcohol (4 to 10 per cent in beer, 10 to 20 per cent in wine, 40 to 50 per cent in whiskey) is a toxin of the narcotic habit-forming group as there was forty centuries ago when Solomon, the wisest man in all history, said: "Wine is a mocker and strong drink is raging, and who-

soever is deceived thereby is not wise." Beer, the most insidious and the most destructive to morals and human life of all the alcoholic beverages, is the mocker that has sent "millions to their homes in the dim land of dreams."

If professors in colleges of all kinds, including medical schools, had the common-sense and the moral courage to become total abstainers and teach by precept the scientific truth regarding the physiologic effects of alcohol, social drinking would cease to exist as a menace to the health and lives of the finest type of men and women of America.

ALCOHOL A PUBLIC HEALTH PROBLEM

There can be no question but that social drinking, which leads to alcohol addiction, is the cause of more illness and more deaths than any other single factor in the United States. Life insurance statistics prove the truth of this assertion. Recent studies in many cities show that more than half the 30,000 deaths and the more than 1,000,000 accidents on the streets and highways of the United States are due to alcohol. It is estimated that more than forty per cent of suicides result from alcoholic inebriety. Colonel Alex M. Garber, former Attorney General of Alabama, found in studying the causes of murders in Alabama that alcohol was the cause in more than fifty per cent of the cases; and no doubt, in the increasing number of deaths from the electrocution of criminals, alcohol is the most important factor.

Statistics regarding alcohol as a cause of disease and death are valueless for the reason that the physician who fills out the certificate of deaths in alcoholics does not care to offend or distress bereaved relatives by recording alcohol as the primary or contributing cause of death. The deaths recorded from cirrhosis of the liver may be regarded, however, as an index of the amount of alcoholism in any state or nation. Dr. Elliott, Professor of Medicine of Northwestern University, recently reported that in the Cook County Hospital, Chicago's great charity hospital, the death rate from cirrhosis of the liver had increased nearly five hundred per cent in the last ten years. In the last five years I have treated more cases of cirrhosis of the liver than I had seen in twenty-five years before. In the last year I have seen two physicians, noble men, at one time successful practitioners, victims of alcoholic cir-

rhosis of the liver. One died and the other has only a few weeks to live.

In the forty-five years that I have practiced medicine, I never saw a case of cirrhosis of the liver in a woman until four years ago, and since then I have seen five women, all of them from fine families, in varying stages of alcoholic cirrhosis. Judging from my experience in treating sickness in adults, gastro-intestinal diseases in particular, the women in the upper circles of society in Alabama and adjoining states are drinking more than men. Goethe, the great German poet, in his "Law of Caste" said: "No nation can rise above the mothers of its men." What will be the future of the United States—the last hope of democracy—if the mothers of the men of the next generation are victims of alcohol?

Each individual physician should do his part in reducing the morbidity and mortality rates from alcohol. He can best perform that service to his community, his State and the Nation by having the moral courage to become a total abstainer himself, and by becoming a leader in a campaign of education to teach—not moderation which precedes inebriety—that the only safe plan for any man, or woman, boy or girl to follow is to refuse ever again to take even one drink of beer, wine or whiskey.

It is high time for the medical profession to realize that the sickness and death rates of adults from 20 to 60 years of age may be reduced at least twenty-five per cent if the use of alcohol as a beverage can be stopped. When the leaders of medical thought realize that alcohol is the most important public health problem that faces this Nation, and that they may perform a patriotic duty by informing the public of the dangers of alcoholism, they will lead the movement to teach total abstinence to all classes. It is gratifying to know that some of the state departments of health, Mississippi in particular, realize the opportunity to reduce the death rates in their states; and they are carrying on a campaign of alcohol education to prevent automobile accidents, homicides and suicides.

MAN PUTTETH AN ENEMY IN HIS MOUTH TO STEAL
AWAY HIS BRAIN

Shakespeare went to the heart of the alcohol problem when he had Cassio say: "I have but poor and unhappy brains for drinking. Would that man would invent some other form of courtesy." Physicians, who need

clear heads and steady hands for twenty-four hours each day, have "poor and unhappy brains for drinking," and they will be wise when they substitute for high-balls, cocktails or beer, ginger ale or orange juice, which "cheer but do not inebriate."

I give to young physicians who would lead sober, industrious, useful and happy lives the wisdom of Shakespeare, who, four centuries ago, expressed what is in the heart and minds of thousands of thoughtful physicians who are distressed at the increasing consumption of alcohol with all its evil consequences:

"Men putteth an enemy in their mouths to steal away their brains. O, God, that we should with revelry, plesance and applause transform ourselves into beasts."

In 1910, Dr. James T. Searcy, then Superintendent of the Alabama Insane Hospitals, estimated that at least twenty-five per cent of the insanity of Alabama resulted from alcohol; and he quoted Dr. Frederick Peterson, Director of New York State Insane Hospitals, as saying that 42 per cent of the insane men and 12 per cent of the insane women in his state were alcoholics. Dr. W. D. Partlow in 1938 reported that the admissions of insane alcoholics in Bryce Hospital increased 700 per cent from 1932 to 1938. He said that prior to 1933 he had never admitted a female patient who was insane because of alcohol but that in 1938 more than thirty women were admitted into the Bryce Hospital because of alcoholic insanity. Zeigler and Horner, Albany, New York, reported that there had been a 500 per cent increase in alcoholic admissions to the registered psychiatric hospitals in New York State from 1920 to 1934. It is estimated in New York State, which has the highest insanity rate and also consumes more alcohol per capita than any other state in the Union, that of boys and girls over fifteen years of age one out of every 20 will at sometime in life be a patient in a hospital for mental diseases.

In recalling the physicians of my acquaintance who have become insane, at least 75 per cent of them were alcohol inebriates.

The discussion of alcohol as a public problem was prompted by a desire to aid in reducing the mortality from the use of alcoholic beverages. It was with the same spirit that I have urged that measures be taken to reduce the number of deaths resulting from swallowing bichloride of mercury accident-

ally, or with suicidal intent. A life saved from the slower poisoning following the daily ingestion of alcohol over the period of a number of years is just as valuable to the community as one prevented by making it hard to buy the more rapid poison, bichloride of mercury.

Recent experiences seemed to show the imperative need to point out to young physicians the dangers that follow social drinking. Within the last two months four cases of well trained young Alabama doctors in different parts of the State, who are destroying themselves by drinking, have been brought to my attention with requests that I talk to them about the dangers of alcoholism. All four of these young doctors were inveterate cigarette smokers. There must be many more such cases in Alabama, and in many other states in the Union.

It would seem that older physicians who have lived long enough to know the end results from social drinking should counsel with their young confreres and friends who now see only the glamour, gaiety, revelry and allurements of drinking parties. If young men and young women could know that "when the tumult and the shouting die" disaster follows the revelry, they would be afraid to take the first or another drink. I admit with some degree of pride that I am afraid to take even one drink of any alcoholic beverage. This fear comes from having seen many better doctors, and many stronger men than I know myself to be, wreck their lives by alcoholism which began in social drinking. If I can transmit this holy fear of drink to some of my younger confreres, this preachment will not have been in vain.

INSPIRATION FROM THE LIVES OF GREAT PHYSICIANS

Young men should not imitate others in dress and in mannerisms; but in deportment and in acquired habits it is wise for them to follow the examples of the leading men in their profession. Certainly the Mayo brothers have achieved success and great distinction in our profession. They were active surgeons until they had passed the Biblically allotted three-score years and ten, and no doubt their regular, systemic and abstemious habits were important factors in promoting their health, efficiency and longevity. Neither W. J. Mayo nor Charles Mayo has ever used alcohol or tobacco in any form during their long and useful lives. I have never

heard of their being called "wet blankets" at any party. They simply decline to drink socially, they do not keep or serve alcoholic beverages of any kind in their homes, yet they have enjoyed fellowship with the physicians of the United States as much as any two physicians whom I have had the privilege of knowing.

James Marion Sims, the greatest surgeon America has produced, did not use tobacco and he was a total abstainer from all alcoholic beverages. Frank Lahey and Elliott P. Joslin of Boston, and Howard A. Kelly, J. M. T. Finney and Harvey Stone of Johns Hopkins are total abstainers. Dozens of other distinguished physicians and surgeons, who never used tobacco or alcohol, can be named.

It is more than a coincidence that all of the living ex-presidents of the Association now over the age of sixty, whose names can be recalled at this moment, physicians who have achieved success and distinction, have lived and are still living largely in accordance with the philosophy of life which has been inadequately outlined in this advice to young physicians. They include men whom you know, admire and revere: Dr. C. C. Jones, Dr. L. L. Hill, Dr. Glenn Andrews, Dr. W. M. Cunningham, Dr. R. S. Hill, Dr. C. A. Thigpen, Dr. M. B. Cameron, Dr. W. W. Harper, Dr. Eugene D. Bondurant, Dr. Charles Mohr, Dr. Toulmin Gaines, Dr. Dyer F. Talley, Dr. W. D. Partlow, Dr. J. D. Heacock, Dr. W. G. Harrison and Dr. J. N. Baker. With few exceptions, this distinguished group of Alabama physicians are total abstainers and the majority of them do not use tobacco in any form. Certainly the young physicians of Alabama cannot do better than to emulate the examples of living, useful men who have lead abstemious lives and have achieved success and distinction in the practice of medicine in Alabama.

THE WISDOM OF THE AGES

In conclusion, Osler's advice to young men in "A Way of Life" regarding the teachings of Christ and the wisdom of the ages as found in the Bible is quoted:

"Begin the day with Christ and His prayer—you need no other. Creedless, with it you have religion; creed-stuffed, it will leaven any theological dough in which you stick. As the soul is dyed by the thoughts, let no day pass without contact with the best literature of the world. Learn to know your Bible, though not perhaps as your fathers did. In forming character and in

shaping conduct, its touch has still its ancient power."

Finally, I would commend to young physicians as a source of philosophy, and as inspiration to right living, the simple poetry of Robert Burns. Burns knew more of the human heart and the emotions that move men than any poet that has lived except Shakespeare. His "Epistle to a Young Friend," the finest poem in the English language, is a good corollary to the Ten Commandments. The last stanza of this poem voices the feelings of a physician who has found happiness in trying to help young men, and who has been distressed to see many who should have been successes in the practice of medicine fail because of faulty mental and physical habits.

"Adieu, dear, amiable youth!
Your heart can ne'er be wanting!
May prudence, fortitude and truth
Erect your brow undaunting!
In ploughman phrase, God send you speed;
Still daily to grow wiser;
And may you better reckon the rede
Than ever did th' adviser!"

THE NEED FOR CLINICS IN A MENTAL HYGIENE PROGRAM FOR ALABAMA*

By
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In discussing the need for psychiatric clinics in a program for mental hygiene in Alabama, I am going to forget for the moment that I am addressing especially members of the Mental Hygiene Society, most of whom are engaged in work either in the field of education, nursing or social and public welfare, or else through wide humanitarian interests and impulses have a knowledge and understanding of the common ground upon which we meet here today.

I am going to speak as if I were speaking to lay groups, who either may have thought little of needs along these lines, or else may be skeptical as to the desirability, effectiveness and practicability of such a public service.

The problem of mental disease cannot be avoided. It faces every state and every tax

payer. It has of necessity become a responsibility of government. It is too enormous to be handled by individuals and families except in rare instances. Whether mental disease is on the increase or not, we know that the hospitalization of mentally ill persons increases with each year.

On January 1, 1935, there were approximately 450,000 patients resident in the mental hospitals of the United States. During the year an additional 140,000 were admitted so that a total of 590,000 were resident at some time during 1935. In terms of general population it means that one out of every 200 adults was a resident in a mental hospital, while one out of every 150 was under care at some time during the year. Approximately 75,000 mental patients are discharged annually from mental hospitals in the United States, but each day brings 275 new cases to these same hospitals.

One person out of twenty will become a mental hospital patient at some time in his life (based on present day hospitalization) and one out of every ten will probably be incapacitated by mental disease (though not hospitalized) at some time during his life.

Of 1,076,000 hospital beds in the United States in 1935 almost one-half were allotted to patients suffering from nervous and mental disease—though, of course, not as many individual patients occupied these beds as those of the general hospitals where each bed serves twenty-six patients a year while the bed of a mental hospital has a much less frequent turnover. Invested capital designated for care of mentally diseased patients in the United States exceeds \$500,000,000.00 while annual expenditures for this purpose exceed \$100,000,000.00.

In Alabama there were present in the Bryce Hospital on September 30, 1934, 3,017 patients—on the same day, 1938, 3,800 patients. In the Searcy Hospital for colored insane on September 30, 1934, there were present 1,598 patients—on the same day, 1938, 1,635 patients, an increase in both institutions in four years of 820 patients, and this in spite of a remarkably large number of dismissals, to be exact 6,010 during this same period.

These figures for the most part represent definitely established mental trouble, not unhappy psychoneurotics, personality deviates, behavior problems, delinquents, social maladjustments and the like. These fig-

*Read before the Alabama Society for Mental Hygiene, in annual session, Montgomery, March 24, 1939.

ures represent the burden that the most backward commonwealth would recognize as its own and the method of handling it, the most elementary solution for a menace and a threat to the social body. These figures represent cases that must be for the most part confined for the safety and security of the various communities; not a benevolent gesture of help to the soul sick or an intelligent plan at prevention; only a dull realization that here is some one who *must* be confined.

Because we have no clinics, no psychopathic hospitals for acute cases and because the medical profession and the lay people of Alabama have faith in their state hospitals, there come to them a goodly number of early cases who seek help and restoration while it is yet possible. I make this parenthetic statement in deference to those patient friends of mine in many of whom I have the utmost confidence and whom I would trust under any conditions.

What has Alabama done to meet the problem of mental disease? Alabama has provided only the bare necessities. We do have a state hospital system that has made a creditable record. The fact that during the last fiscal year the Bryce Hospital reported 1,743 admissions and 1,424 dismissals is evidence enough of that, but even the state hospitals need more support, both in terms of money and active and sympathetic public interest.

Alabama has not one single out-patient service for psychiatric cases, not one clinic for nervous and mental diseases in the adult and not one child guidance clinic. There is no public agency in Alabama where a man, woman or child can get consultation, treatment or even advice about a problem of adjustment or behavior, or disturbed emotions or thinking, of mentally conditioned suffering or neuroticism, of any illness in which a sick and troubled mind is the basic cause, without having him or her self committed to a state hospital, and then the chances are that the applicant will have to wait several weeks before a vacancy occurs. But Alabama is not alone—the entire South is deficient and backward in this respect. Alabama can only lay claim to having made not the least progress in extra-mural psychiatric care.

Tennessee has three out-patient psychiatric clinics and one behavior clinic. Louisiana

has two out-patient clinics in connection with hospitals and a recently established child guidance clinic. Kentucky has clinics at Lexington and Louisville. South Carolina has two clinics. North Carolina is beginning to establish a state-wide service and has had clinics at Charlotte and Durham for several years. Georgia has two clinics, both in Atlanta.

Alabama is among three states in the South and among eleven in the nation that have no public out-patient psychiatric service of any kind.

Again thinking in terms of the average citizen who might ask just what constitutes a psychiatric clinic, I would like here to discuss that briefly. Such a clinic is built around a psychiatrist, a clinical psychologist, psychiatric social workers and necessary clerical help. These three types of workers are necessary for economy and efficiency. Each renders an essential service, the final integration and use of which rests upon the psychiatrist. The annual cost of such a clinic will run between \$15,000.00 and \$20,000.00 a year. Such a clinic might be stationed in one place or travel in a circuit of several of the large centers. It need not be confined to one type of service. It can devote, say for instance, two days a week to adults, two days to problem children, and another day to mental defectives. It can handle a case load of about three hundred patients a year for intensive study and treatment, and the number could be considerably increased if it renders less treatment and more consultative service.

Here you might say: Why that only scratches the surface. It most assuredly does and then with an almost imperceptible mark. But it is a start and it offers more than the mere service to the patients who visit it. Such a clinic through its various contacts will influence public opinion more and do more to teach mental health from a preventive standpoint than any other agency or method.

The clinic through its patients will be rooted in medicine, in the schools, in juvenile courts, in social agencies and in the homes. The school that sends a problem child to the clinic will find the philosophy of the clinic pervading the classroom, will find the teachers learning how to handle other difficulties through the demonstration of one case. Parents will learn through one mistake, proper-

ly studied, how to deal with other children in a manner that will tend to promote positive mental health. Social workers will have an opportunity to acquire an insight into their problems and a technique of handling them that will give depth and breadth and vision to their work.

The physician or pediatrician who refers a case and follows it through the clinic will be stimulated to give more thought to the effect of the emotions on bodily function.

The clergy, recreation and character building workers may find close contact with the clinic interesting and profitable. The public health physician and public health nurse will help and be helped through such association.

The wide range of service which a well integrated clinic can give through educational channels is illustrated by the fact that in 1933 the Philadelphia Child Guidance Clinic had teaching affiliations with the University of Pennsylvania Medical School, the Graduate School of Medicine of the University of Pennsylvania, the William T. Carter Child Helping Foundation of the University of Pennsylvania, Temple University School of Medicine, the Pennsylvania School of Social Work, the Department of Social Economy of Bryn Mawr College and the Philadelphia Normal School.

What agency of government can initiate and maintain one or more of the clinic units? There are three most likely departments which are especially suited to this responsibility. They are (1) the present state hospital system, (2) the public welfare department, and (3) the public health department.

Dr. W. D. Partlow has in the past in his reports and recommendations to the Governor and the Legislature asked for increased appropriations which would support such a program of extra-mural psychiatric care. The present laws pertaining to the welfare department of the State make legal a department of mental hygiene if and when funds are available for such work.

It is being thought more and more that public health should include mental health. The fact that mental hygienists have not yet been able to offer a program of prevention as simple and as easily executed as those public health campaigns against tuberculosis, typhoid and hookworm disease has no doubt prevented mental hygiene from being

made a more essential part of the general public health formulations. However, it cannot be denied that the local public health department is admirably suited as a center for the itinerant mental hygiene clinic and that the field nurse is a proper link between the clinic and the patient in the home.

The Department of Public Health of the State of Tennessee is fostering a mobile mental hygiene clinic in rural sections. The clinic group is composed of a psychiatrist with training in the field of diseases of children, two psychiatric social workers and a public health nurse with broad psychiatric insight and training. This is to date a demonstration program, the fate of the clinic to rest somewhat on its survey and accomplishments.

Some believe that behavior clinics are so intimately associated with the school age and school problems that they should be attached to the department of education.

Alabama has no four-year medical school. Wherever we find a medical school we find progress in medicine, higher professional ideals and more complete integration in the various phases and specialties of medicine. If and when Alabama gets a four-year medical school, a psychiatric out-patient service is sure to follow as a part of the essential curriculum. Any support the average citizen gives to a prospective four-year medical school is support not only for better medicine and better doctors in our State, but support for mental hygiene as one part of a broad program for human welfare, health and progress in general.

When will Alabama step forward in the matter of mental hygiene clinics? When enough public spirited citizens demand for themselves and their neighbors such a service, they will get it. Until then a few of us, such as are gathered here today, will only talk about it, nod approval and hope that some energetic soul will do the job by himself; and the job will never be done by one man or one woman.

I have just heard from Dr. George S. Stevenson of the National Committee for Mental Hygiene telling of a young Alabama woman who has completed her medical education and wants to prepare herself to carry on some sort of mental hygiene work in Alabama. Shall we continue to tell such young men and women that Alabama offers no encouragement or opportunities in this field?

TREATMENT OF HEART FAILURE*

By

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The treatment of early heart failure in the typical case presents few difficulties; but as the disease progresses, management assumes a more varied form and the physician is often forced to use every means available in order to secure optimum therapeutic results.

Although rest is one of the most difficult phases of treatment to make the patient carry out, it is probably the most valuable single method of treatment in medicine and is of especial value in helping the individual with heart failure. Dr. Henry Christian, Professor of Medicine at Harvard, has stated that any patient with heart disease who is sick enough to go to bed should stay in bed for at least a month. A good comfortable bed with a back rest and four or five pillows saves the heart considerable work, and the semi-recumbent position will be found to be more comfortable for the majority of patients than the lying position. If one will take the trouble to explain to a patient that by resting in bed he may save his heart in the neighborhood of 25,000 beats a day, one will find that these patients will usually cooperate. Rest is thought to be followed by a decrease in the amount of blood pumped by the heart and the mean arterial pressure, a slowing of the pulse, a diminution of the work of the heart and a decrease in venous return and pulmonary engorgement.

No discussion of therapy in heart failure is complete without the mention of sedatives. When a patient with congestive heart failure is short of breath and has not slept for several days, there is no drug that can compare with morphine in promoting relief from dyspnea during the first few nights. Morphine tends to help break the vicious cycle of dyspnea by rendering the reflexes less sensitive to the stimulation of increased venous pressure. In addition it helps put the patient to sleep, makes him less conscious of his shortness of breath and consequently more comfortable. It likewise lessens the cough which should always be controlled as far as possible in the cardiac patient. As the individual improves, morphine should be

discontinued as early as the patient's condition permits. Then a codeine cough mixture may be used for cough and some form of hypnotic, such as sodium bromide, luminal or chloral hydrate, should be given to allay nervousness and restlessness. Naturally, morphine should be carefully watched to avoid habit formation, but I should like to stress again the great value of this drug in the relief of dyspnea of heart failure.

Diet is a factor that one can hardly afford to overlook in therapy. The work of the heart increases following the consumption of food, while in undernutrition the work of the heart and the oxygen consumption of the body are decreased. The best diet during the first 48 hours for an individual with severe failure is the Karell diet. This consists of 200 cc. of milk given four times during the 24 hours. No other food or fluid may be given each time with the milk except a few crackers. The advantage of this diet is probably due to the fact that it is low in fluids, in salt and in calories, but contains ample calcium. After the first few days the individual is put on a soft, salt-poor diet which should consist of frequent small feedings of well-balanced, well-cooked, thoroughly digestible food with fluids limited from 800 to 1200 cc. Within the past few years Prodder and Dennig have advised a semi-starvation diet on the basis that the decrease in metabolism which results from such a diet rests the heart and gives it less work to do. This is a new idea in treatment and offers some promise, but it should never be carried out to extremes or too long for the patient may become too thin. It is wise in any kind of diet to be certain that enough vitamins and proteins are present. Formerly it was thought that a cardiac patient should have a low protein diet, but now it is known that sometimes the blood albumin is low, and if the kidneys are not affected, many of these patients do well on a high protein diet. If an individual is obese, and has heart disease, even though symptoms of cardiac failure or angina pectoris may not be present, the body weight should be reduced purely as a prophylactic measure. It is wise to be unusually careful about administering thyroid to such individuals because it is thought to have been the predisposing agent of severe heart failure and angina pectoris in some cases. The lactic acid content of the blood is higher during exercise in the fat

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person than in the thin one, and obesity may help to increase the work of the heart and to impair the functional capacity of the heart during exertion. Therefore, if an individual is too fat, an obesity diet should be instituted when necessary.

It is well to remember that the course of the weight, the fluid intake and output, the vital capacity and the venous pressure, as well as the physical signs and symptoms, will help give one a clear and accurate guide as to the prognosis of the patient's condition. Because of the increased venous pressure brought on by the exertion of straining at stool, constipation should be avoided. It is wise to start with four tablespoonfuls of mineral oil daily. If this does not suffice, an occasional dose of milk of magnesia or of cascara may be beneficial. In spite of arguments to the contrary because of its dehydrating effect, magnesium sulphate, if judiciously and not too frequently employed, may have a definite place in the therapy of congestive heart failure.

Digitalis still remains as the foremost drug in the treatment of heart failure. The clinical value of it is not widely enough appreciated and all the effects of the drug are probably not yet completely understood. The important effects following digitalis are thought to be a slowing of pulse rate through vagal inhibition, a depression of conductivity through both direct action on the muscle and inhibition, an increase in the velocity of blood flow, a diminution of circulating blood volume, a decrease in venous pressure, a decrease in the size of the heart and an increase in urinary volume due to improvement in the circulation.

As regards the administration of digitalis, Withering advised "that foxglove be continued until it either acts on the kidneys, the stomach, the pulse or the bowels, but let it be stopped upon the first appearance of any of these symptoms." Always find out before administering the drug whether or not the patient has been taking it and, if so, how long, how often and how much. In deciding upon a satisfactory dosage of the drug, two main factors must be considered: first, the initial administration of enough of the drug to obtain a maximum therapeutic response with a minimum of undesirable side effects; and, second, the maintenance of the maximum therapeutic effects over long periods of time. Eggleston has been intimately con-

cerned in this country with the proper selection of initial and maintenance dosages of digitalis. He advises .015 gms. of the powdered leaf per pound of body weight administered within a period of 24 or 36 hours, one-half to one-third of this to be administered as the initial dose and the rest to be given in equal fractions at six-hour intervals during the following 24 to 36 hours. If an individual has had no digitalis and it is desired to give the drug by mouth, it is best to give it in the form of capsules each containing $1\frac{1}{2}$ grs. of the powdered leaf. For the average patient $1\frac{1}{2}$ to 2 gms. is about the dose required for digitalization during the first few days. This may be given in divided doses of about 0.6 gms. a day for the first three days and then a maintenance dose of $1\frac{1}{2}$ to 3 grs. a day thereafter. The majority of people who need digitalis should receive it the rest of their lives. The severe cases require a more rapid digitalization than the mild ones. The main thing to remember about administering the drug is that no definite amount is to be given the first few days, but to give it until a satisfactory therapeutic response is obtained. By this is usually meant a slowing of the pulse from 60 to 70 beats per minute or until nausea or vomiting supervenes. The drug should not be given in surgical shock or coronary occlusion unless congestive heart failure develops because digitalis is often followed by a decrease in blood volume and in these cases the blood volume may be already decreased.

It is interesting how patients vary in their response to digitalis, and in the early stages of digitalization a physician should see his patient once or twice a day. After the individual's pulse rate remains slow he may be put on a maintenance dose. If loss of appetite, nausea or vomiting, bigeminal pulse, couple beats or heart block occur, digitalis should be discontinued for 24 to 36 hours and then started again later for these are the main contraindications to the drug. Should the patient be unable to take digitalis by mouth, then the drug may be given in the form of digalin, digitan or digifolin intramuscularly, of which the latter is the most frequently used. In some cases the drug may be given per rectum in doses of 3 to 4 cc. of the tincture diluted with 50 to 100 cc. of water. Digitan, following an edema, may be given in a rectal tube in doses of 8 to 20 cc. where 1 cc. is equivalent to 0.1 of a gm.

of powdered leaf. It is not as irritating to the rectum as the alcoholic tincture of digitalis. In severe acute cases a rapid effect is desired and in such instances digifolin or quabain, which is amorphous strophanthin, may be given intramuscularly. Five to ten cc. of digifolin may be administered at one time to a very ill patient who has had no digitalis. One obtains a quicker response, however, from quabain. The initial dose of quabain should not exceed 0.5 mg. This may be followed at intervals of $\frac{1}{2}$ hour with smaller injections of 0.1 mg. until a full therapeutic effect is obtained. It is wise not to administer more than 1 mg. in 24 hours. In some cases a prompt result with slowing of pulse rate within 5 to 15 minutes may be observed.

Since digitalis does not promote enough diuresis in many of the severe and advanced cases, other diuretics often have to be employed. One gram of ammonium chloride four times a day along with the digitalis, before another diuretic is started, is often used. It is thought that this drug enhances the action of the other diuretic drugs because of its acidifying effect. By far the best diuretics to be given by mouth are those of the xanthine group. Among these are theobromine, theobromine sodium salicylate (diuretin), theocalcin, theophyllin (theocine), and aminophyllin. Aminophyllin may be given by mouth or intravenously. The usual intravenous dose is $7\frac{1}{2}$ grs. Beneficial effects of the drug in treating acute attacks of bronchial asthma have likewise been reported. One of the best drugs of this group, as has been demonstrated by Marvin of Yale and Harrison of Vanderbilt, is theophyllin or theocine. It is usually administered in dosages of about 5 grs., three or four times daily for two days at a time. Should nausea or vomiting or untoward symptoms occur, the drug may be stopped and started again after a few days. Some observers have obtained good results from a single daily administration of a two or three ounce dose of urea. It is thought by some that theophyllin produces a diuresis largely through an increase in the renal blood flow, with a consequent increase in glomerular filtration; while the mercurials act mainly through inhibiting tubular reabsorption. It seems that one of the effects of the mercurials is a decrease in blood volume.

The drug that, in my opinion, has given

the best results in the treatment of advanced heart failure, except for digitalis, is the drug called salyrgan (mersalyl). This was used abroad in the treatment of syphilis and is the most powerful diuretic, I think, known at the present time. It comes in ampoules of one or 2 cc. for intravenous medication and one should guard against getting the solution outside the vein because it is painful and may cause a deep slough. Recently it has been used in the form of suppositories, but I hardly believe they are as effective as the intravenous route. Salyrgan is non-irritating to the undamaged kidney, but should not be used if there is a nephritis present. As regards the use of this mercurial diuretic, Fishberg states: "If the urine is dark in color and the specific gravity exceeds 10/20, renal function is not seriously bad and there need be no fear of administering it. When the specific gravity of the urine exceeds 10/20, one need not determine the non-protein nitrogen of the blood before injecting the drug, for any increase which may be present is not due to impairment of renal function. If the maximum specific gravity of the urine in concentration tests is only about 10/15, it should be given cautiously and at intervals of at least a week. When the specific gravity is fixed at about 10/10, even though the non-protein nitrogen of the blood is not elevated, mercurials should not be injected for there is considerable danger of retention and toxic manifestations. Nor should the mercurials be given in the presence of active glomerulonephritis with red blood cells in the urine. On the other hand, even massive albuminuria is not a contraindication to mercurials as long as renal function is not seriously impaired." Salyrgan is one of the most dramatic drugs in medicine. When used it is best administered in the morning because if given later in the day the patient may have to be awake a good part of the night passing urine. The diuresis usually starts within three hours and is usually complete within the day although it may last as long as 48 hours. This drug is often followed by the passage of 4000 to 6000 cc. of urine. A recently described diuretic called mercupurin has been used with good results and this drug likewise has been employed in the form of suppositories. It should be realized that theocine and salyrgan may not only help peripheral edema but may be of great service in the treatment of pulmonary edema.

The intravenous use of concentrated 50% glucose has been employed in some instances and has been advocated in acute pulmonary edema. Recently Weiss and Wilkins have called attention to the existence in this country of the so-called beriberi heart in patients who exhibit few, if any, other signs of beriberi. In such cases the use of digitalis helps little if any, but after the use of vitamin B, many of these patients show marked improvement. If an individual has syphilitic heart disease, he should be given saturated solution of potassium iodide and a prolonged course of mercury or bismuth before using any arsenical. Many syphilologists a few years ago advised against the use of any arsenicals at all in syphilitic heart disease with failure. If the arsenicals are used after prolonged courses of bismuth or mercury they should be given in very small doses, such as 0.1 gm., 0.2 gm., or at best 0.3 gm. of neoarsphenamine and very carefully watched. While discussing drugs, I should like to mention quinidine. Routinely for congestive heart failure it is not necessary to use this drug. Its main place in heart disease lies in converting an irregular rapid rhythm, such as auricular fibrillation or paroxysmal ventricular tachycardia, to a regular rhythm. In such instances, doses of 5 grs., two or three times a day, should be begun, given about 4 hours apart and gradually increased until a slow and regular rhythm of the pulse supervenes. It must be realized that this drug is a two-edged sword and may cause an embolism with instant death. As has been said, it is rarely used; but in such conditions as paroxysmal ventricular tachycardia it may be life saving.

Now we get to the mechanical methods of treatment. In all patients with much fluid in the chest or the abdomen, thoracentesis or paracentesis should be performed as early as the patient's condition permits. Even moderate pleural effusions increase dyspnea of heart failure and they should be tapped when of much smaller volume than would be considered necessary in tuberculous pleurisy with effusion. A tap is often not only followed by a decrease in dyspnea but also by an increase in vital capacity, often a decrease in venous pressure and diuresis. If pericardial effusion is present, the pericardial tap should be performed only in exceptional cases in which there is definite evidence that the effusion is hampering the cir-

culatation. An increase in dyspnea, the development of orthopnea, a deepening of cyanosis, a fall in arterial blood pressure, and a rising venous pressure bespeak for a paracentesis of the pericardium if pericardial effusion is present.

Venesection in advanced cases of heart failure that have not responded to the above methods of treatment, if carried out properly, may be life-saving. It should be noted that venesection is of value not only when there is systemic venous engorgement with edema but probably yields its most brilliant results in failure of the left side of the heart with pulmonary edema. Three hundred to four hundred cc. of blood should be removed quickly and if necessary later repeated. If a patient does not show an improvement following the first venesection, other venesections are useless. It is interesting that leeches were used for many years for this purpose and that long discarded treatment may still have a definite place in modern therapy. Many patients are greatly improved by the removal of a small amount of blood and it is to be deplored that this procedure is not more often used. Spinal drainage if carefully carried out may help the dyspnea of certain individuals and spinal drainage along with venesection offers more relief than either one alone. In the severe cases of obstinate edema of the legs, small tubes, called Southey's tubes, with needle-like points may be inserted into the subcutaneous tissue and the fluid drained out mechanically but for practical purposes this method at the present time has been almost discarded.

Oxygen, when available, if carefully administered, may be of definite benefit in severe cases. It is rarely necessary to employ it and, unfortunately because of the cost, is often not practical. The effects of oxygen therapy in cardiac insufficiency have been studied in detail by Barach and Woodwell and Barach and Richards. Barach and his associates found that in some patients with heart failure oxygen therapy was followed not only by an improvement in dyspnea and cyanosis but also by a slowing of the pulse, diuresis, diminution in edema and a fall in the elevated lactic acid content of the blood.

I should like to say a few words about the treatment of acute pulmonary edema. This disorder is a very acute medical emergency. If this condition arises, death may be imminent unless heroic, quick measures are

employed. In such instances a large hypodermic of morphine should be given, and an immediate venesection of 200 to 500 cc. of blood carried out. This may save the individual's life and prolong for many weeks a patient that otherwise might have died within a very few minutes. Other helpful measures in treating this condition are the use of digifolin or quabain intravenously, the use of glucose, salyrgan and magnesium sulphate intravenously, the use of tight tourniquets around the upper and lower extremities and the administration of oxygen. At times the condition may be so acute that a physician may have to bleed a patient without having time to sterilize his instruments and find that he has saved his patient's life.

Although we are not greatly concerned with angina pectoris here, nevertheless it might be mentioned in passing. The inhalation of pearls of amyl nitrite, or the use of a 100th or 150th gr. dose of nitroglycerin under the tongue is usually satisfactory in the mild cases. In the severe cases morphine or oxygen may be employed. In the more severe cases various forms of surgery, such as sympathectomy, dorsal-ganglionectomy, paravertebral alcohol injections, have been employed with some measure of success. In the treatment of coronary occlusion little can be accomplished except by the use of massive doses of morphine for pain, vasodilators, such as theominal, mild laxatives; and, most important of all, prolonged rest in bed for two or three months. Complications such as paroxysmal ventricular tachycardia will have to be specifically treated in addition. It is worth while remembering that a patient with congestive heart failure is a bad risk. He must be guarded carefully from drafts, colds, exposure and infections, for the risk of bronchopneumonia is great and may be fatal if it arises. It is wise, as far as possible, to keep patients free of any foci of infection. Many patients with prolonged heart failure develop what is known as cardiac cachexia and become weak and thin and sometimes anemic. For this reason bitter iron tonics to stimulate the appetite may be employed.

It is becoming fashionable for many of the medical disorders to enter the domain of surgery. Heart disease is no exception. At the present time, drainage of the pericardial cavity for pus and operation on the heart muscles for stab wounds are performed. In the coronary cases, a stitching of the pec-

toralis major muscle to the pericardium has been attempted in a few instances in order to promote a better collateral circulation of the heart but this very radical operation is advised only with the utmost caution. In some cases of congestive heart failure with massive enlargement of the heart, a decompression of the chest with the removal of several ribs has been performed in order to enable the heart to beat more freely. Even surgery of the mitral valve in mitral stenosis has been attempted but again has met with very little success. In patients with heart failure following arteriovenous fistula, where there is a communication between a large artery and vein, suture of the openings has in many cases been promptly followed by disappearance of the heart failure. A case of heart failure in good condition associated with a large abdominal tumor should be operated on in order to remove any possibility of the tumor pressing on any large veins and accentuating the edema.

The type of heart disorder that responds best to surgery is the heart failure of hyperthyroidism, and, if thyroidectomy is performed early enough and enough thyroid tissue removed, the failure may disappear. Within the past few years the operation of total thyroidectomy has been employed in heart failure even when no hyperthyroidism existed. It is well known that metabolism is elevated in heart failure. It was thought that this operation, by causing a lower metabolism, a decrease in pulse rate and blood pressure with the resulting decrease in work of the heart, would be followed by success in many of these patients. It has been followed with success in a fair number of selected cases. Thyroidectomy in angina pectoris has likewise been followed by success in some instances. The operation of thyroidectomy for congestive heart failure or angina pectoris is a distinctive advance in treatment of heart disease but this operation is still almost in the experimental stage and is advised with the utmost caution.

Operation might be contemplated only in cases of heart failure or angina pectoris which are gradually getting worse in spite of a prolonged course of conservative treatment. If there are conditions such as tuberculosis, marked hypertension or malignancy which are likely to lead to a fatal termination anyway, then this radical procedure should not be countenanced. It is contrain-

licated if syphilitic heart disease, coronary thrombosis or nephritis is present, or if the basal metabolic rate is below minus 10. The physical condition of the patient should be good enough to warrant such therapy and an excellent surgeon should be employed. Lastly, it would seem that operation might be accepted only in those patients who show considerable improvement although not enough improvement for them to be up and about for any period of time. Thus thyroidectomy is indicated in but a small group of patients with heart failure or angina pectoris and, as has been stated, is advised with the utmost caution. For practical purposes, it is hardly to be considered at present.

Now that the treatment of heart failure has been discussed, let me briefly summarize the typical treatment of the average case. The patient is put in bed, given morphine for discomfort or cough, put on a Karel diet for two days, followed by a soft, low-salt, limited fluid diet with a mild laxative. Digitalis is started, ammonium chloride is given and after a few days theocine is begun. This may be followed by salyrgan when indicated, or all of these measures may be started at once when the patient comes into the hospital. Only rarely is it necessary to use any of the other above mentioned forms of treatment. Now let us assume that our patient is up and out of bed and is ambulatory. How are we going to handle him? He must be told frankly, without scaring him, the true nature of his condition and the importance of being guarded in his activities. He is kept on a maintenance dose of digitalis, advised to rest several hours a day in bed, if necessary, and is given theocine along with a Karel diet for one or two days each week, even though he may be edema free. If, on this regimen, edema develops and he gets worse, then he receives one or two injections of salyrgan each week. If the physician considers each case an individual problem, varies his treatment accordingly, and follows each patient with as much interest and efficiency as possible it is surprising and gratifying how long a life many of these people will lead and how devoted they become to those practitioners of the art that help make a longer life possible.

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CHRONIC ARTHRITIS*

By

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Arthritis is said to be the oldest disease of medical records. It probably has existed since the time of prehistoric man; yet, until comparatively recently, it has received but scant attention from the medical profession. Perhaps this is to be attributed to the fact that it is not a contagious disease and is seldom fatal. Around 70% of the cases are chronic in character and usually so insidious in onset that even the patient is loath to take his symptoms seriously. In a recent survey by the Metropolitan Life Insurance Company it was found that chronic arthritis is responsible for about 9% of all cases of illness. It is definitely the greatest single cause of disability and economic loss in temperate climates; greater than tuberculosis and the venereal diseases combined and outranking accidents two to one. In 1932, chronic rheumatic diseases caused an estimated loss of 7,500,000 weeks of work and of more than \$200,000,000 to those disabled in the United States alone. Anyone interested in the subject of arthritis can now be thoroughly informed on the important English and American literature by reading the abstracts as they appear annually in the Annals of Internal Medicine as a result of the work by the American Society for the Study and Control of Rheumatism and Arthritis. French and German literature also is being added to these annual reports.

We are just beginning to realize that chronic arthritis is probably the most important economic problem that is presented by chronic disease. Approximately 75% of in-

*Read before a meeting of the Walker County Medical Society, Jasper, January 13, 1939.

dustrial workers over forty years of age suffer from some type of rheumatism. Thomson¹ concluded that a man over forty years of age is a considerable liability to his employer and to his insurance company, and that, with advancing age, it becomes increasingly more likely that he will be incapacitated for a longer or shorter period by some type of rheumatism.

The previous almost universal lack of attention to this malady was due partly to the confusing and discouraging differences of opinion regarding almost every phase of its diagnosis and treatment. However, it seems well demonstrated now that in well organized clinics a large proportion of chronic arthritis cases can be benefited by efficient and systematic treatment. In general, from 50 to 75% of the patients can be helped in some degree by proper treatment.

The Committee for the Control of Rheumatism advises the adoption of the classification for chronic arthritis as atrophic (rheumatoid, proliferative or infectious) or hypertrophic (osteo-, degenerative or senescent). This classification admittedly is not entirely satisfactory to all² but is the best that has been devised to date. Confusion arises in accurately classifying a given case as hypertrophic or atrophic or a mixture of the two. Both types are of unknown etiology. Atrophic arthritis occurs mostly between the ages of 10 and 30 years, and low grade infection is presumed to be an important etiologic factor. Hypertrophic arthritis predominantly occurs between 50 and 80 years, and senescent degenerative changes of the joint structures, plus trauma and metabolic disturbances, are said to be important causative agents. Many cases cannot be clearly classified in one or the other of these two groups and for that reason should be referred to as mixed types of arthritis.

Dienes and Bauer³ have expressed their opinion that the blood sedimentation rate is the most useful laboratory test for diagnos-

ing cases of atrophic arthritis. In their series it was positive in 90% of the atrophic group. Snyder² considers the test unreliable and quotes Hench in stressing the fact that, since such indirect tests are not yet of practical or of undoubted value, we must continue to rely on clinical judgment and observation in the management of chronic arthritis.

Symptomatically, acute atrophic arthritis often starts with marked fever and prostration, multiple joint involvement with pain, swelling and tenderness, and, frequently, effusion into the joints. The chronic type usually has a gradual onset and the inflammation in the joints is less pronounced.

The mixed type of arthritis occurs predominantly between the ages of 30 and 50, and infection is still a prominent factor, but metabolic disturbances, mental and physical strain, and acute or repeated trauma are increasingly important.

Hypertrophic arthritis is usually seen in fairly robust individuals past middle life. They complain of stiffness and pain in the weight-bearing joints. The onset is extremely gradual and ankylosis is rare.

There certainly seems to be no lack in treatments for arthritis; and all forms of treatment have their fair share of testimonials as to their efficacy. It must be kept in mind that the majority of cases of arthritis are self limited and that whatever the patient is doing in the way of treatment at the time the attack stops gets the credit, as it should do, but that fact rather confuses the question of what is the right treatment and makes arthritis the happy hunting ground for quacks.

Vaccines, controlled rest and exercise to overcome postural deformities, all forms of physiotherapy, including spa therapy; drugs to overcome vitamin and sulfur deficiencies, gold salts intravenously, bee stings, psychotherapy, various diets, colonic irrigations, x-ray therapy, intravenous bile salts, and many other measures have been enthusiastically offered as aids in the management of arthritis. Last October Woolf⁴ came out with an article advocating the injection of oil, boiled from the patient's own fat, into the painful joint. Often, each one of these measures has been advocated to the exclu-

1. Thomson, J. E. M.: Industrial Accidents and Chronic Arthritis, Nebraska M. J. 17: 324-327, Aug. '32.

2. Snyder, R. G. (New York): Arthritis Problem; Brief Sketch Explaining Reasons for Renewed Interest in Arthritis, M. Clin. North America 21: 1595-1621, Nov. '37.

3. Short, C. L., Dienes, L., and Bauer, W.: Rheumatoid Arthritis: Comparative Evaluation of Commonly Employed Diagnostic Tests, J. A. M. A. 108: 2087-2091, June 19, '37.

4. Woolf, A. E. M.: Surgical Method of Relief for Intractable Pain in Osteoarthritis of Knee, Brit. J. Rheumat. 1: 97-108, Oct. '38.

sion of the others. Quite often, the author fails to mention in his article that in addition to his favored remedy other forms of treatment have also been used. In the majority of our patients it is not possible to utilize all these various forms of treatment for obvious economic reasons and so, as a rule, we must select those measures which are least expense and time consuming, and which at the same time will most likely relieve the patient's symptoms and conserve joint function.

It seems logical that the most clearly indicated method of attack in a case of arthritis would be to remove all offending foci of infection and then attempt to correct existing postural defects which are probably contributory factors in the case. Proper diet (reduce the obese, and fatten the underweight patient), adequate elimination and sufficient amount of rest are important measures. Baking and immobilization of the acutely painful joints with splints or casts, with later passive and active exercises, should be employed. Analgesics, such as aspirin and sodium salicylate, are best to relieve pain. If some glandular dysfunction exists, the proper treatment for that condition should be employed.

While it may not be possible to eliminate worries of domestic or financial character, the patient's fear that he is afflicted with an incurable and progressively disabling disease should be vigorously attacked. He should be warned not to expect any rapid or spectacular results but rather a slow or gradual improvement. Snyder believes that exhaustion of the nervous system contributes to lowering the patient's resistance and thus permits the other etiologic factors of arthritis to gain a foothold.

My experience with vaccines has been very disappointing. In 1935, Dreyer and Reed⁵ reported treating 34 patients with atrophic arthritis with vitamin D in massive doses, 25 of them being very much improved. Improvement was noted after a week in a few and in others treatment of six months was required. They gave their patients 200,000 U. S. P. units of vitamin D daily. Toxic symptoms occurred in a few cases, and to combat this the drug was discontinued.

During the past two years, I have used this

form of treatment in a group of 57 patients. Twenty-three of these patients had been on other forms of treatment, including diathermy, massage, graduated exercises and other forms of physiotherapy, for at least three months. Seven had had a series of colloidal sulfur intravenous injections and four had had similar gold salts injections. Of these twenty-three patients fifteen were diagnosed as having hypertrophic arthritis, five as having a mixed type, and three, the atrophic type. Fourteen (60.8%) were remarkably improved symptomatically in from two weeks to four months, and nine were not improved to a degree sufficient for clinical evaluation. All of these patients took 200,000 U. S. P. units of vitamin D in the form of Drisdol for at least one month. Three developed unfavorable reactions in the form of gastro-intestinal upsets and the drug was discontinued for two or three days, then started in conjunction with brewer's yeast tablets. No upsets were noted in these patients after vitamin B was started.

Improvement was characterized by a feeling of increased strength, less fatigability and decreased pain and stiffness in the affected joints. Objectively, according to x-rays, there was very little change, if any, to be noted in the status of the joints.

Dietotherapy, heat, massage and graduated exercise were used in conjunction with the drug. As soon as subjective improvement seemed to be definite and sustained, the daily dosage of vitamin D was cut down to between 7,500 and 15,000 units. This dosage was continued for at least six months. Two cases had flare-ups of pain and stiffness after a few days of this decreased dosage and the original dosage was again instituted. Each of the nine cases that did not show any improvement was continued on the drug a minimum of three months. Seven of these were of the hypertrophic variety, one of the mixed group, and one of the atrophic type. The remaining thirty-four cases are still being treated and have not been observed sufficiently long for the effect of the drug to be evaluated.

This experience leads me to agree with Abrams and Bauer⁶ that the effect of the administration of massive doses of vitamin D in chronic arthritis is subjective rather

5. Dreyer, I., and Reed, C. I.: Treatment of Arthritis with Massive Doses of Vitamin D, Arch. Phys. Therapy, 16: 537-540, Sept. '35.

6. Abrams, N. R., and Bauer, W.: Treatment of Rheumatoid Arthritis with Large Doses of Vitamin D, J. A. M. A. 111: 1632-1638, Oct. 29, '38.

than objective. It seems definitely proven that there are no specific effects with such medication but the subjective improvement seems to justify the administration of the drug since similar results have not been obtained with other preparations. Flare-ups will probably occur in several of these patients from time to time, and it will be interesting to observe whether massive doses of vitamin D will again control them.

Steinberg⁷ concluded, and I agree, that the toxicity of such massive doses of vitamin D has been overemphasized. Booth and Hansen⁸ concluded that the toxic dose of vitamin D is so large that the danger of hypervitaminosis from its administration is rare except in the occasional case of hypersensitivity.

In 1936, Hanflig⁹ described a method of "neck stretching" for patients with cervical arthritis presenting symptoms of pain in the cervical region, shoulder girdle, arm, or, more rarely, the precordium. To date, I have subjected thirty-eight such patients with x-ray evidence of cervical arthritis to "neck stretching" and have had none of them fail to be considerably relieved. The most striking effect of the procedure has been the almost dramatic relief from pain during the first stretching in the majority of the patients. This is certainly a valuable addition to our armamentarium in the management of cervical arthritis.¹⁰ In all of these cases, massive doses of vitamin D have also been administered.

SUMMARY AND CONCLUSIONS

1. Massive doses of vitamin D have resulted in marked subjective improvement in 60.8% of a series of 23 cases of chronic arthritis.

2. The administration of massive doses of vitamin D is of great value in relieving the symptoms of chronic arthritis.

3. "Neck stretching" as advocated by Hanflig has proven to be a valuable therapeutic

7. Steinberg, C. L.: Masses Doses of Vitamin D in Chronic Arthritis; Its Effect on Calcium Metabolism, *J. Lab. & Clin. Med.* 24: 17-24, Oct. '38.

8. Booth, M., and Hansen, A. E.: Present Day Status of Vitamins; Review, *Journal-Lancet* 57: 530-544, Dec. '37.

9. Hanflig, S. S.: Pain in Shoulder Girdle, Arm and Precordium Due to Cervical Arthritis, *J. A. M. A.* 106: 523-526, Feb. 15, '36.

10. Terhune, S. R.: Mechanical Treatment of Cervical Arthritis, *J. M. A. Alabama* 7: 255-256, Jan. '38.

procedure for relieving root pains caused by cervical arthritis.

2160 Highland Avenue.

Tubal Pregnancy—After rupture or abortion, pain is the most common and usually the earliest symptom. Some authors classify vaginal bleeding as the earliest symptom; however, in my practice I have noted that women are more likely to consult a physician regarding pain than for any type of vaginal bleeding, except severe hemorrhage. Pain varies with the underlying pathologic condition and may be mild, cramp-like, a dull ache, colicky, tearing or cutting, and located in either of the iliac fossae, although the lumbar region and either of the abdominal quadrants are at times the site. Painful urination and defecation may also be present. The pain may radiate to either or both shoulders, or to any part of the abdomen. Pain referred to the chest and shoulders is usually due to diaphragmatic irritation as a result of intra-peritoneal bleeding. It should be emphasized that the pain in ectopic pregnancy is a variable thing. It follows no definite rule or classification and its exacerbation may be from hours to days apart. The attacks of sharp pain are due to repeated small hemorrhages into the peritoneal cavity. A small proportion of patients with little or no previous warning will have a small amount of uterine bleeding with a sudden lancinating pain in the involved side, a massive hemorrhage, weakness, extreme pallor, rapid pulse, cold clammy skin, sighing respiration, *et cetera*.—Lowry, *Texas State J. Med.*, May '39.

IMPORTANT NOTICE

Officers of the Association call attention to Mr. Glen E. Royals, who claims to be editor of "The Physicians of Alabama," with editorial offices at 2512 16th Street, Gulfport, Mississippi, who says, in his contact with physicians of the State, that he is compiling a biography of the doctors of Alabama, all to be included whether or not they pay the subscription fee of \$15.

Letter addressed by the central office of the Association to a Gulfport physician brings the reply that he does not know Mr. Royals; and that a visit to 2512 16th Street reveals that he is a traveling man.

Mr. Royals has not discussed his plans with the Association. The State Board of Censors, therefore, has not passed upon his proposition.

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May 1939

OFFICERS FOR 1939-40

Concluding one of the most successful sessions in the history of the Association, election of officers resulted in the selection of Dr. Mercer Stillwell Davie of Dothan for President; Dr. John S. Tillman of Clio and Dr. J. Paul Jones of Camden as Vice-Presidents of the Southeastern and the Southwestern Divisions, respectively; Drs. Lloyd Noland, J. D. Perdue and French Craddock as Censors; and Dr. Douglas L. Cannon as Secretary.

Counsellors-Elect were named as follows: Dr. W. T. Cocke, Demopolis; Dr. N. W. Killingsworth, Brundidge; Dr. W. H. Waters, Opp; Dr. C. G. Laslie, Montgomery; Dr. F. H. Boyd, Opelika; Dr. Marcus Skinner, Selma; Dr. J. O. Morgan, Gadsden; Dr. C. E. Ford, Roanoke; Dr. L. C. Davis, Gordo; Dr. R. Lee Hill, Haleyville; and Dr. John D. Sherrill, Birmingham.

The Association's new President, a Life Counsellor, has long manifested a keen interest in organized medicine, lately as a member of the State Board of Censors. It is freely predicted that his administration will prove to be an auspicious one.

His election culminated a meeting that was outstanding in many respects. Registrations totaled some 606, the greatest part of which was a body of devoted physicians intent upon opportunities offered to acquire further

knowledge concerning the newer things in the field of medicine and surgery, as well as to care for the business affairs of the Association, sitting as the State Board of Health.

All those who gathered from the four corners of the State were outspoken in their appreciation of the program and of entertainments planned for them. For the latter, they expressed great indebtedness to the Montgomery County Medical Society, host to the Association.

The 1940 meeting will be held in Birmingham, April 16, 17 and 18.

TREATMENT OF ACUTE CIRCULATORY FAILURE

"The circulation may fail either centrally or peripherally. In the first condition the heart is fatigued and is unable to expel the volume of blood delivered to it. Congestion results and by its clinical manifestations we recognize the picture of congestive heart failure. In the second condition there is usually nothing wrong with the heart as a pump. The heart is quite able to discharge the blood entering it from the venous side of the circuit; the difficulty is in the peripheral circulation and the amount of blood returned to the heart is inadequate. This condition is known as peripheral circulatory failure or shock.

"The proper management of patients whose circulations are deranged depends primarily upon the accurate differentiation of these two conditions, for the therapeutic principles involved differ widely."

These paragraphs are from the recent article by Baker¹ who considers the various symptoms of the two types of acute circulatory failure and discusses the treatment of each. The author, of course, fully realizes that both types of acute circulatory failure may be present simultaneously, especially in cases of acute myocardial infarction, but he warns us that, in general, they are apt to occur separately.

The Baltimore observer says that "no attempt will be made to discuss the theories, classification and pathological physiology of peripheral circulatory collapse or, as it may be more briefly designated, shock. Furthermore this would lead to controversy as there

1. Baker, Benjamin M.: The Treatment of Acute Circulatory Failure, Med. Clinics of N. America, 23: 463 (March) 1939.



The James Marion Sims Memorial

ERECTED ON THE CAPITOL GROUNDS IN MONTGOMERY AND PRESENTED TO THE
STATE OF ALABAMA BY THE ASSOCIATION ON APRIL 19, 1939

is not uniformity of opinion among authorities upon the subject. For the purpose of this discussion it is sufficient to point out that shock differs widely from congestive heart failure and is confused with congestive heart failure far too frequently. Only by close familiarity with the classical clinical manifestations of the two conditions may they be accurately differentiated and their therapeutic management rest upon sound footing."

The author holds that rest and relief of distress "are fully as important in the management of shock as they are in the treatment of congestive heart failure." The body must be kept warm and, if pain exists, morphine or a reliable substitute should be given and, likewise, sufficient sedatives to promote sleep.

"The patient with congestive heart failure must be comfortably supported in the upright position to relieve breathlessness. Ordinarily the patient in shock experiences no breathlessness. He not only derives no benefit from the upright position but often is made worse if forced to assume it. The blood pressure in shock is low and there are critical levels of blood pressure depression beyond which the vasomotor center suffers grave and even fatal anemia. In an effort to guard against this the patient in shock should be placed flat in bed and in certain instances the foot of the bed should be elevated."

We are also informed that "in most older discussions of the varied forms of peripheral vascular collapse considerable emphasis is placed upon 'stimulating the heart' and 'supporting the circulation' and digitalis is strongly recommended.

"In uncomplicated shock there is nothing wrong with the heart and therefore no stimulation is needed. The heart is perfectly able efficiently to expel the blood which it receives. The fault in shock is that the return of blood to the heart is deficient and digitalis possesses no known action capable of correcting this circulatory fault. While it is true that the circulation in shock needs support digitalis cannot accomplish this. Not only is digitalis useless in shock, it may also do great harm."

Oxygen, we are told, may be used with benefit, though it works less well in shock than in congestive heart failure and coronary thrombosis.

"In contrast to the restriction of fluids necessary in the treatment of congestive heart failure, the patient in shock usually needs fluids in large amounts. This is particularly true in the dehydration shock of diabetic acidosis and prolonged infections; in the shock of burns, extensive surgical operations and hemorrhage where there is likewise reduction of blood volume. The reduced blood pressure must be maintained at a safe level by transfusions of blood or by the administration of large amounts of salt solution and glucose by mouth and parenterally when necessary.

"In the circulatory collapse of coronary thrombosis fluids cannot be given so freely." And finally we read that "the results obtained by administering adrenalin, caffeine or other drugs with direct peripheral action are usually discouraging and may be harmful."

Most physicians are well aware of the nature and incidence of congestive heart failure in its various aspects and are apt to be alert to its occurrence and adept and experienced in its treatment. But peripheral circulatory collapse or shock is less likely to be promptly diagnosed and, once the diagnosis has been made, the treatment is more apt to be improper. Consider the countless patients with pneumonia or sepsis who have been futilely and even dangerously digitalized while life-saving fluids were given in insufficient amounts. Our knowledge of shock is far from satisfactory but some progress is being made and we are gradually learning more about its earlier detection and better treatment. Practitioners will do well to heed the sound advice contained in Baker's excellent paper.

Committee Contributions

Maternal and Infant Welfare

DEFINITION OF TERMS

Considerable confusion, in the past, has arisen over the terms live-birth, stillbirth, abortion, miscarriage, premature, full term, puerperium, postpartum period and neonatal. Your Committee would suggest that the following definitions be clipped and filed for reference when filling out birth and death certificates. The definitions for live birth, stillbirth, abortion and premature

have been agreed upon by the Children's Bureau, American Public Health Association and the Bureau of the Census. The other definitions are those in general use in the leading medical centers.

Live birth: A liveborn child is one which shows any evidence of life (breathing, heart beat or movement of voluntary muscle) after complete birth. Birth is considered complete when the child is altogether (head, trunk and limbs) outside the body of the mother, even if the cord is uncut and the placenta still attached.

Stillbirth:* A stillborn child is one which shows no evidence of life after complete birth (no breathing, no action of heart, no movements of voluntary muscle). *The period of uteral gestation of registration of stillbirths recommended in the Model Vital Statistics Law, formulated about 1907 and repeatedly reaffirmed by the subcommittees on Stillbirth of the American Public Health Association, is a 5 months (20 weeks) or more gestation.

Abortion: The expulsion of a nonviable product of conception occurring before the seventh lunar month or $6\frac{1}{2}$ calendar months (28th week) of gestation is considered an abortion.

Miscarriage: A less desirable term, synonymous with abortion.

Premature: The termination of pregnancy in the period from the beginning of the 28th to the end of the 37th week of gestation is considered premature.

Full term: The termination of a pregnancy in the period from the 37th to the 40th week of gestation is considered full term. A baby weighing over 5.5 pounds and being $17\frac{1}{2}$ inches long is considered full term. (Babies of smaller weights and shorter lengths having smooth unwrinkled skin may be full term while those of larger weight and longer length with wrinkled skin—no subcutaneous fat—may be premature, though, in general, the above weight and length are the accepted standards.)

Puerperium: The puerperium is the period of 6 weeks immediately following the expulsion of the product of conception.

Postpartum period: Synonymous with puerperium.

Neonatal: The neonatal period is defined as that in which the infant is less than 1 month (less than 30 days) of age.

Prevention of Cancer

RESPONSIBILITY OF THE FAMILY PHYSICIAN IN THE CANCER PROBLEM

Cancer control is attracting the attention of the whole nation. Our people are becoming cancer conscious, seeking the advice of the physician earlier than ever before. It is the family physician who holds one of the most important roles in the control of cancer. As it is he who sees the patient first, he must therefore be alert for the early signs of cancer. Many patients will come to him with trembling and fear and he needs to be able to guide them through his examinations and advice. It is he, again, who is able to direct the proper cases to the specialist for further diagnosis and treatment if he himself is not equipped to do so.

If the family doctor loses control of the patient, the latter may get into the hands of a cancer quack and the outcome may be a tragedy rather than a successful cure. The family physician is in a position to know whether certain cures are authentic and approved by the medical profession. He may also obtain lay literature concerning cancer from various organizations for his patients.

Patients must be informed that cancer has been placed in the field of preventive medicine. It is a recognized fact that cancer rarely occurs in normal healthy tissue but in some spot where there has been chronic inflammation which may be preceded by this so-called precancerous change. Patients need to know that corrective measures can be taken to eliminate these conditions.

Our responsibility as physicians lies not alone in treatment of cancer but in the education of our patients for the time is rapidly approaching when the presence of advanced incurable cancer will be a reflection on the medical profession in that community. Let us meet this challenge as we have met all others. Let us start today informing our patients concerning the value of preventive measures, such as periodic examinations, removal of chronic inflammation or irritations, the reporting to the family physician of the danger signs of cancer, and the dangers of delay and treatment by any means other than the accepted ones of surgery, x-ray and radium.

TRANSACTIONS OF THE ASSOCIATION

1939 SESSION

TRANSACTIONS OF THE SEVENTY-SECOND
CONSECUTIVE SESSION OF THE MEDICAL
ASSOCIATION OF THE STATE OF ALA-
BAMA, HELD AT MONTGOMERY, APRIL 18-
20, 1939

First Day, Tuesday, April 18

The Medical Association of the State of Alabama convened in the ballroom of the Whitley Hotel, Montgomery, and was called to order at 9:00 A. M., by the President, Dr. Seale Harris, Sr., of Birmingham.

Invocation was offered by the Reverend Donald MacGuire, D. D., Pastor of the First Presbyterian Church, Montgomery.

Addresses of welcome were delivered by the Honorable W. A. Gunter, Mayor of Montgomery, and Dr. J. W. Dennis, President of the Montgomery County Medical Society, host to the Association.

REPORTS OF OFFICERS AND COMMITTEES

The reports of officers and committees were received, each referred in its turn, without discussion, to the Board of Censors. These reports follow:

Report of Vice-President Hayes

Southeastern Division

Two meetings with excellent papers were held in the district during the year. The first, held with the Houston County Medical Society in Dothan on August 11, 1938, was addressed by Drs. Hugh Dent Johnson and A. E. Thomas of Montgomery, and Dr. Clarence R. Bennett of Eufaula. Guest speaker was Dr. J. L. McGehee, Professor of Surgery, University of Tennessee, Memphis, whose subject was "The Use of Living Fascial Transplants in Certain Types of Herniae."

The second meeting was held at Jordan Dam above Wetumpka with the Elmore County Medical Society. Contributors included Dr. J. P. Chapman, Selma; Drs. D. C. Donald and T. M. Boulware, Birmingham; and Drs. Edgar Fincher, William A. Smith, Henry Poer and T. S. Claiborne of Atlanta.

On the whole, quite satisfactory work has been done during the past year by the various County Medical Societies composing the Southeastern Division.

Report of Vice-President Smith

Northwestern Division

It is a distinct privilege to have the honor of rendering a report on the condition of the North-

western Division. Last year was good; this year was better. We joined with the Northeastern Division for a meeting at Clarence on June 2nd. Our hosts were Drs. Joe Moore and D. S. Moore. More than 174 doctors and visitors enjoyed the hospitality and scientific papers, and paid their respects to the memory of our hosts' father, Dr. D. S. Moore, who so ably served that community for more than fifty years.

The second meeting was held at Winfield in September with an attendance of eighty-nine. At this meeting attention was called to the provision in the constitution that only two division meetings were required each year. It was the unanimous vote of those present that we should hold three meetings a year.

The third meeting was held at the Veterans' Facility near Tuscaloosa. This was held jointly with the Southwestern Division. About one hundred and thirty-eight attended the sessions. At the dinner there was a discussion of the proposed four-year medical school.

Contacts have been made by personal visit with all the County Medical Societies in the Division. Thirteen visits have been made to regular scheduled meetings. Four visits have been made to counties and various members contacted in order to find what was being done. This year Marion and Fayette Counties have voted to have their meetings each month, so that at present only four counties cling to quarterly meetings.

The attendance for the year shows an increase at all meetings. Discussions of papers have been free and helpful. All the County Medical Societies are showing an active interest in the Association and their officers are doing a good job. Three of our counties have 100% of the available physicians as members. In those that do not, there are very few physicians that meet the qualifications. There may be some criticism advanced as to the few members who appear on County Medical Society programs. It has always seemed to me that the county should train its men as speakers so that they will come to the Division, and from there go to the rostrum of the Association. At present there is a tendency to call in the man from the city or larger town. It has been my observation, during my short experience, that knowledge is not confined to these larger places and that the country physician has a great accumulation of practical lore and information, gained by years of practice, that he owes to us and to himself to make public. As I visit with many of these veterans, I believe that we are missing a great deal because we do not make them talk at our meetings.

As it has been many years since our "Red Book" came off the press and since during this time many changes have been made, I should like to make the suggestion that a new edition be printed.

*Report of Vice-President Coxwell**

Southwestern Division

There has been increased activity in the Division during the past year. The interest in general in each county has shown marked improvement with each county having at least two meetings and some counties having more during the year. The Division as a whole had three very helpful meetings.

The first of these was the annual meeting held in Monroeville on July 28, 1938 with approximately one hundred in attendance. Papers were read by Dr. B. Hartwell Boyd, Atlanta; Dr. Seale Harris, Sr., Birmingham; Dr. K. E. Luckie, Selma; Dr. G. O. Segrest, Mobile; and Dr. Frank W. Pickell, Brewton.

The second meeting was a joint one with the Southeastern Surgical Congress in Selma on November 25, 1938. Clinics were held as follows: Medical—Dr. Seale Harris, Sr.; Gynecologic—Dr. Gilbert Douglas; Surgical—Dr. Robert Sanders of Memphis, Dr. T. C. Davison, Atlanta, and Dr. Alton Ochsner, New Orleans. Dr. Ochsner also addressed the luncheon meeting having for his subject "Etiology, Diagnosis and Treatment of Peripheral Vascular Lesions."

The third meeting was held with the Northwestern Division at the Veterans' Facility, Tuscaloosa, in order that there might be a discussion of a four-year medical school for Alabama. This was the topic at the luncheon meeting. The morning session was occupied with papers contributed by Dr. G. H. Teasley, Athens; Dr. Kellie Joseph, Birmingham; Dr. William P. Bland of the Facility; Dr. B. T. Beasley, Atlanta; and Dr. W. G. Harrison, Jr., Birmingham.

In closing I would like to say that I have enjoyed my work with the members of this Division and the other Divisions of the Association. It is my sincere hope that the Association will continue to prosper, and that there may be continued improvement of the medical profession as a whole.

Report of Vice-President Stewart

Northeastern Division

In submitting my annual report as Vice-President of the Northeastern Division I wish to pay my respects to all the doctors in the Division for their loyal support and cooperation.

We had two meetings during the year. The first was a joint one with the Northwestern Division at Susan Moore High School, Clarence, Blount County, June 2nd, 1938.

There were about two hundred doctors present. A very fine scientific program was given by the following essayists: Dr. A. B. Harris and Dr. Cecil D. Gaston, Birmingham; Dr. W. B. Anderson, Nashville, Tennessee; Dr. J. O. Morgan, Gadsden; and Dr. Carl A. Grote, Huntsville. After adjournment of the scientific program, Drs. David S. and Joe G. Moore of Birmingham were hosts at an old-fashioned barbecue, honoring the memory of their father who practiced medicine in Blount

County for more than fifty years. A delightful time was had by all.

At the second meeting, held September 22, 1938 at Anniston with the Calhoun County Medical Society as host, fifty-six doctors were present. A very interesting and scientific program was given by the following doctors: Dr. John W. Boggess, Jr., Guntersville; Dr. C. N. Carraway and Dr. Seale Harris, Jr., Birmingham; Dr. Douglas L. Cannon, Montgomery; and Dr. Jerre Watson, Anniston.

A survey made of our Division shows that ninety-one per cent of all white doctors are members of their respective county societies and that sixty-three per cent of the doctors attend regular society meetings. Fourteen of our seventeen county societies meet regularly once each month, and three meet one to three times each year, due to small memberships. I urge that all counties have a strong and active medical society as our state organization depends on this.

Report of the Secretary

Douglas L. Cannon

MEMBERSHIP OF THE ASSOCIATION

The membership of the Association, as enrolled April 1, 1939, is 1558—an increase of twenty-seven (27) in the number listed in my last annual report to you; and sixty-eight (68) more than on April 1, 1937. Over the five-year period 1935-1939 there has been a steady increase in membership as evidenced by the following April 1 enrollments:

1935	1,449
1936	1,455
1937	1,490
1938	1,531
1939	1,558

Percentage of physicians identified with county medical societies is 86.6, as opposed to 84.4 per cent on April 1, 1938, Negro practitioners numbering eighty-two (82) having been deducted. Eleven counties (Bullock, Butler, Coffee, Conecuh, Coosa, Lawrence, Marengo, Perry, Tallapoosa and Winston) have a membership of one hundred (100) per cent, and for the attainment they are to be commended heartily.

DEATHS

Thirty-five (35) members of the Association have died since the last annual meeting: Life Counsellors W. S. Britt, E. G. Givhan and W. E. Morris; Active Counsellors S. E. Jordan and J. A. M. Nolen; the Vice-President of the Southwestern Division, Dr. A. B. Coxwell; and members T. C. Baumhauer, Ernest Bonner, M. S. Causey, A. T. Colley, J. D. Dean, J. D. Duke, W. C. Head, Clark Hill, J. S. Hollis, I. W. Howard, N. A. Johnston, C. A. Jordan, J. L. Jordan, W. O. Lawrence, S. L. Ledbetter, Sr., H. M. Lyda, A. E. Maumenee, L. S. Nicholls, G. C. Nix, M. M. Nolan, A. L. Nourse, J. H. Patton, E. M. Robinson, B. W. Roden, E. R. Smith, W. G. Thigpen, J. L. Thomas, D. H. Thweatt and A. A. York.

STUDY OF MEDICAL CARE

A year ago reference was made to a study of medical care to be pursued by the several county medical societies under the sponsorship of the

*Dr. Coxwell died shortly after he had filed his report with the Secretary of the Association.

American Medical Association. The study got under way in Alabama on May 4, 1938 and resulted in a response by seventeen (17) counties: Choctaw, Coffee, Coosa, Dale, Etowah, Jefferson, Limestone, Lowndes, Macon, Marengo, Mobile, Montgomery, Perry, Tallapoosa, Walker, Wilcox and Winston.

The Journal of the American Medical Association, in its organization section, took cognizance of the study made by the Jefferson and Walker County Medical Societies, and said of the former that "the county medical society not only conducted the study in an exceptionally thorough manner but also made a careful and scholarly analysis of the facts."

Unanimity of opinion characterized the conclusions reached by the societies that engaged in the survey. Let some of these be cited:

"There is urgent need for a city and county hospital where the indigent can receive hospital care. This is the greatest single need in the county at the present time."

"Most of the physicians have extensive practices but income is meager due to the inability of patients to pay adequately for services."

"The county has adequate medical care if it were used to the best advantage."

"If more people would budget their yearly income and take into consideration that a certain amount should be set aside for medical care, this would help the general population."

"We do not feel that socialization of medicine would help in any way, and, from our experience with people, we believe it would be detrimental to a majority of the population, and also to the practicing physician."

"Proper clinic and hospital facilities should be provided for professional work; and, when these are provided, the physicians of this county feel that they will be able and willing to care for all medical needs arising in the county."

"Medical care is totally inadequate, especially for people in the middle and lower economic brackets."

"A county hospital should be established for the treatment of indigent cases."

"All patients needing medical care are readily and willingly served by the physicians of the county. It would be unwise to use any other method."

"The crying need of this county is a county-owned hospital. No physician in the county is unwilling to render aid to charity cases."

STATUS OF COUNSELLORS-ELECT

At the lasting meeting of the Association, ten (10) members—Chas. E. Abbott, F. R. B. Coggin, J. G. Daves, J. F. Huey, Chas. O. King, H. C. McCullough, F. W. Pickell, H. M. Simpson, Merle E. Smith and Jerre Watson—were elected counsellors. All but one have qualified fully as required by the constitution, and it is hoped that this one will have done so before vacancies in counsellorships are announced at the close of tomorrow morning's session.

SOCIETY CHARTERS

A year ago the Association authorized the President and Secretary to issue duplicate char-

ters to societies that had misplaced the original, issued in 1912. Under this authority, framed charters were furnished the medical societies of the counties of Autauga, Baldwin, Barbour, Butler, Calhoun, Chambers, Choctaw, Clay, Coosa, Crenshaw, Cullman, Dale, Dallas, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Houston, Lauderdale, Lawrence, Lee, Lowndes, Madison, Marengo, Marion, Marshall, Pike, Randolph, Russell, Shelby, St. Clair, Washington and Wilcox. After one had been drawn for Bullock the original was found, making a duplicate unnecessary and it was retained by the Secretary as a specimen copy.

DELEGATES OF THE ASSOCIATION

Credentials, duly executed by the President and Secretary, have been handed the Association's delegates to the American Medical Association, convening in St. Louis, May 15-19. The term of these representatives, Drs. J. N. Baker and A. A. Walker, expires with this meeting of the national body; and it will be a prerogative of the next president to name their successors for a term of two years expiring with the 1941 meeting of the American Medical Association.

COMMITTEE APPOINTMENTS

President Harris named, to succeed themselves on the committees of the Association, Frank A. Kay (Mental Hygiene), A. E. Thomas (Maternal and Infant Welfare), K. F. Kesmodel (Prevention of Cancer), B. B. Warwick (Prevention of Blindness and Deafness), Cabot Lull (Postgraduate Study) and Marcus Skinner (Fractures and First Aid)—each for a term of three years.

Committeemen whose terms expire with this meeting are: W. S. Littlejohn (Mental Hygiene), J. M. Weldon (Maternal and Infant Welfare), H. M. Simpson (Prevention of Cancer), Lucien Brown (Prevention of Blindness and Deafness), Ralph McBurney (Postgraduate Study) and H. Earle Conwell (Fractures and First Aid). It will be a responsibility of the next president to name their successors.

OFFICERS TO BE ELECTED

Officers to be chosen at this meeting are a president, a vice-president for the Southeastern Division, a vice-president for the Southwestern Division to fill the unexpired term of two (2) years of Dr. A. B. Coxwell, deceased; a secretary, two censors for five (5) years to succeed Drs. J. D. Perdue and Lloyd Noland, whose terms have expired; and counsellors to fill vacancies to be announced at tomorrow morning's session.

Report of the Treasurer

Jacob U. Ray

To the Members, The Medical Association of the State of Alabama:
Gentlemen:

We have audited the cash accounts of The Medical Association of the State of Alabama, for the period from the date of the examination made by your Auditing Committee, April 18, 1938, to December 31, 1938.

We have traced all recorded receipts to the rec-

ord of deposit of funds, as indicated by bank statements on file. Properly approved vouchers, with their supporting documents, were examined in verification of disbursements through the bank account.

To the amount of receipts, and disbursements, determined by us from the period covered, we have added the detail of transactions prior to April 19, 1938, audited by your Committee, to per-

mit preparation of a statement of cash receipts and disbursements for the calendar year 1938, attached hereto as Exhibits "A," and "B."

We did not examined the securities owned by the Association.

Respectfully submitted,
Crane, Harper & Williamson,
By: H. C. Crane, C. P. A.

February 2, 1939

THE MEDICAL ASSOCIATION OF THE STATE OF
ALABAMA

STATEMENT OF CASH RECEIPTS AND
DISBURSEMENTS

FOR THE CALENDAR YEAR 1938

Exhibit "A"

Balance in Banks, December 31, 1937		
First National Bank, Montgomery, Current Account	\$3,661.18	
First National Bank, Montgomery, Savings Account	9,539.83	\$13,201.01
Cash Received—Calendar Year 1938:		
Counsellors Fees (97 @ \$10.00)	\$ 970.00	
Delegates	540.00	
Dues from County Societies (1373 @ \$3.00)	4,119.00	
Interest from Savings Bank Accounts	223.95	
Journal:		
Advertising	\$3,592.55	
Sales of copies of Journal	5.25	
Subscriptions	12.00	
Rosters	4.00	
American Medical Association—Dividend	345.11	3,958.91
Total Cash Received		9,811.86
Cash Disbursed—Calendar Year 1938:		\$23,012.87
According to Exhibit "B," attached:		
Secretarial and Administrative	\$2,818.64	
Journal	6,265.97	
	\$9,084.61	
Investment in Government Bonds	7,500.00	
Total Cash Disbursed		\$16,584.61
Balance in Banks—December 31, 1938		\$ 6,428.26
First National Bank, Montgomery, Ala.		
Current Account	\$1,420.84	
Deposits in transit to bank (Cr. in Jan. 1939)	243.64	
Savings Account	2,221.96	
First National Bank, Mobile, Ala.		
Savings Account	2,541.82	
	\$6,428.26	

THE MEDICAL ASSOCIATION OF THE STATE OF
ALABAMA

DETAILED STATEMENT OF CASH DISBURSED

CALENDAR YEAR 1938

Exhibit "B"

Secretarial and Administrative:		
Salaries—Secretary	\$ 600.00	
Treasurer	300.00	\$ 900.00
Printing and Stationery	205.03	
Postage	196.30	
Expense of Meeting: Divisional and Other Committees	252.19	
Expense Annual Convention:		
Badges	34.21	
Programmes	114.89	
Lecturer	100.00	
Stenographic	44.60	
Pictures—Exhibits & Miscellaneous	80.53	374.23

Printing & Mailing Transactions—Annual Meeting	615.88	
Premium, Treasurer's Bond	50.00	
Safety Deposit Box Rent	5.50	
Lettering Charters, and Charter Frames	38.75	
Directory—American Medical Association	15.00	
Expenses—Delegates—American Medical Association	150.00	
Traveling Expense—Treasurer	12.76	
Dues Refunded	3.00	
Journal:		\$ 2,818.64
Salaries	\$1,120.00	
Publishing and mailing	5,108.97	
Postage	37.00	6,265.97
		<hr/> \$ 9,084.61

Committee of Publication

Fred W. Wilkerson, Chairman

The monthly circulation of the Journal is 1674 copies, 1546 of which go to members of the Association, the remainder to non-member subscribers, exchanges, advertisers and advertising agents.

Receipts from advertising in the calendar year 1938 amounted to \$3,722.06—an increase of more than \$600.00 over the experience of 1937.

The second publication of the Association, namely, proceedings of the annual session, including the roster of physicians, and issued under the title of Transactions, was furnished all members.

The financial aspects of these items have been dealt with in detail in the Treasurer's report.

Committee on Public Relations

John A. Martin, Chairman

FARM SECURITY ADMINISTRATION

Brief mention will be made to a subject that has been one of interest to the medical profession of the State for the past several years; namely, socialized medicine.

The report of the Committee in April 1938 included a statement that two county medical societies (Coffee and Wilcox) had entered into a contract with the clients of the Farm Security Administration in these respective communities. Reports have been received that the agreements are working satisfactorily for all parties and were renewed for 1938 and 1939. Other counties entering into similar contracts are Cullman, Fayette, Franklin, Lamar, Lauderdale, Marion, Tuscaloosa, Marshall, Clay, Elmore, Randolph, Tallapoosa, Dallas, Marengo, Perry, Sumter, Butler, Houston, Choctaw and Conecuh. Counties that rejected are Cherokee, Etowah, Autauga, Chambers, Hale and Covington.

During the past 5 years government agencies have realized that, in addition to food, shelter and clothing, adequate health is an essential in their plans for rehabilitation of some of our people, particularly those on farm projects. If the successful completion of rehabilitation of these people is to a great degree dependent upon physical condition, then it seems that loans from the Federal Government for food, shelter, clothing and medical care should be properly proportioned

in order of importance to the existence of the family concerned. In studying some of the county society agreements with the Farm Security Administration, it seems to the Chairman of this Committee that the doctors have not asked for a loan for these clients sufficient to cover expenses of transportation and drugs and allow any remuneration for professional services. This Committee suggests that all agreements be made on a cost plus basis. This would cause variations in amount paid in different counties.

MEDICAL SURVEY

In April 1938, the American Medical Association forwarded to the Secretary of the Association questionnaires to be used in a study of "the need and supply of medical care" in the separate counties of Alabama. In June, all county medical societies had been informed of the survey to be made and had been furnished with all necessary material with which to proceed with the work. The response was negative, with only 17 counties reporting. The Jefferson County Medical Society submitted a thorough and exhaustive report, thus affording the physicians of that county a clear insight into their medico-social problems. The Committee feels that a great benefit was overlooked through the failure of the county societies to enter into the survey. A lack of knowledge of our medical practice problems exposes the doctors to encroachments by others that might prove burdensome and unwise. Surely, there can be no objection voiced by the profession of the State to plans, by those societies that completed the survey, that may be formulated to meet the adequate requirements of the need and supply of medical care in such localities.

MALPRACTICE INSURANCE

In his report for 1938 the Vice-President of the Northwestern Division recommended "that the Committee on Public Relations study the feasibility of a state-wide plan of malpractice insurance for physicians."

The State Board of Censors, in commenting, said, "It is not entirely clear whether reference is made to blanket insurance or to a defense plan financed by the Association. If the former is in mind, the situation is satisfactorily covered through the Casualty Division of the Aetna Insurance Company and the Lumbermens Mutual, details of which may be had through the Secretary of the Association. The coverage of these

contracts is \$5,000 for a single case and \$15,000 for a year's experience at a cost of \$22.50 to the individual physician, a reduction of approximately 25 per cent in current rates for the same coverage.

"On the other hand, if medical defense by the Association is the thought, then the Board recommends that the Committee on Public Relations, in conjunction with the Secretary of the Association, give consideration to such a plan, and report its recommendation to the next meeting of the Association."

In keeping with this recommendation of the Board, which was adopted by the Association, the Secretary engaged in conferences and correspondence with the Aetna Casualty & Surety Company, which was covering, at the time of the last meeting of the Association, all but five counties—Calhoun, Etowah, Jefferson, Morgan and Walker. It was the thought of the Secretary that if Aetna could meet the situation in these remaining counties it would be preferable to any plan that might be set up by the Association itself.

As a consequence of these contacts with the company, letter from the Chief Underwriter, under date of January 11, 1939, advised that the company had agreed to provide coverage for physicians residing in Calhoun, Etowah and Morgan Counties, and was considering the request that coverage be provided also for those residing in Jefferson County. This attained, only one county will remain uncovered; namely, Walker, and of this situation the company expresses itself as follows: "We shall not be able to provide coverage in Walker County due to the fact that past experience in that county with this type of insurance has been most unsatisfactory. We understand there are several claims and suits pending at the present time against doctors residing in Walker County."

In view of the foregoing it would not seem to be to the best interest of the Association to embark on a medical defense plan of its own. It is the judgment of the Committee on Public Relations that the Association should lend endorsement to that now in operation.

OLD AGE AND UNEMPLOYMENT INSURANCE

In recent weeks the following letter was sent to the presidents of the County Medical Societies by one of the members of this Committee:

"The doctor is a product of society that its members use without restraint and compensate in whole or in part or not at all. After his race is run, society may keep alive the memory of his faithful services to all classes of its body; but, should the physician survive in old age or in ill health, those he has served do not contribute to his maintenance, comfort nor happiness.

"This situation of the doctor is in such contrast to the laborers in other walks of life. Government, industry, organizations and many other agencies make provision for their workers who must retire from activities because of old age or sickness.

"Who provides in such manner for the doctor? The individual doctor himself and if the smile of Fortune has shone upon him, he can 'put aside' for the rainy day. However, there are many members of the profession that are denied the complete fruits of economic security at the close

of their careers. What, then, would be the dignified, the practical and the soundest means of offering 'unemployment insurance' to the doctor? The one agency to accept this service is the State Medical Association.

"It is my desire to ascertain from you, and those you represent in your medical society, if a form of old age or unemployment insurance is desired? Should the demand be decisive from the County Medical Societies, the matter will be aggressively pursued by the Committee on Public Relations of the Association. To present any plan at the next annual meeting of the Association it will be necessary that immediate action be taken and the results transmitted to me as soon as possible."

Replies were received from nine (9) societies and the Committee is of the opinion that more would have answered had time permitted before rendering this report. Not a society heard from replied in the negative, but, on the contrary, indicated the genuine desire for some form of old age and unemployment insurance. It is to be emphasized that the plan does not contemplate life insurance in any phase. The Committee urgently recommends:

1. That The Medical Association of the State of Alabama endorse the principle of such insurance.
2. That the President appoint a committee of three to investigate and report upon a plan looking to the fulfillment of such a program.
3. That the committee be composed of physicians in active private practice.
4. That the committee report its findings and recommendations to the State Board of Censors.
5. That the Board of Censors send its recommendations and the report of the committee to each County Medical Society for action so as to avoid delay until the next annual meeting of the Association.
6. That a vote of two-thirds of the County Medical Societies be necessary to accept or reject the plan.

LEGAL TESTIMONY

On other occasions in recommendations by this Committee and in presidential reports, reference has been made to the relationship of physicians as witnesses in courts of equity. In all instances, the unquestioned need and desirability of competent medical testimony has been established as an essential and paramount necessity in medicolegal considerations and a duty devolving upon the practitioners of medicine to honorably and unreservedly discharge. The Committee feels that it bespeaks the sentiments of the members of this Association when it recommends that The Medical Association of the State of Alabama declare itself as opposed to any legislation, whether arising within its own body or any other governmental agency, that would restrict physicians on the witness stand in presenting before the court testimony that he alone can render and that rightfully may be demanded by the litigants.

Committee on Mental Hygiene

Frank A. Kay, Chairman

Your Committee in reporting on the present status of mental hygiene in Alabama wants it to

be known that it does not wish to leave the impression, by implication or otherwise, that it alone is responsible for all progress in this field. We work with individuals and groups who have our same interests and objectives.

Our field covers two phases of activity: one of educating the general public along preventive lines, the other of encouraging and supporting those agencies which care for persons already suffering from mental disorders.

As to the latter, one must be gratified to see the several new buildings in process of construction at the Bryce Hospital and the Partlow State School. They will not so much increase the bed capacities of these institutions but will ease the overcrowding a bit and facilitate the care of those inmates already present. Bryce Hospital will soon have ready for occupancy a new receiving building for female patients which would be a credit to any state.

As to our teaching program, we report a continuation and enlargement of it. Talks have been made before luncheon clubs, P.-T. A. units and a number of student groups. Bryce Hospital gives a new and larger concept of mental hygiene to students in the colleges of Alabama through its annual clinics for this purpose.

Those seeking advice on problems of the mind have been steered to proper medical channels.

Our greatest opportunity with lay groups is through the Alabama Society for Mental Hygiene, established twenty-four years ago by the then and now leader of mental hygiene in Alabama, Dr. W. D. Partlow.

Members of your Committee take an active part in this organization's efforts, and at its last meeting, in Montgomery on March 24th, 1939, the enthusiasm among teachers, social workers, and lay humanitarians, both for practical propaganda and improved facilities for psychiatric agencies, was greater than ever before. A member of your Committee was elected President of this organization for the coming year.

A law permitting sterilization of persons suffering from hereditary mental inadequacy or disease will be introduced into the Legislature when it reconvenes in July. It has the support of this Committee and we urge the united endorsement of the physicians of Alabama.

With a four-year medical school and with extra-mural psychiatric service, not yet realities, we beg your further indulgence and support. We have not accomplished all that we seek, but as conservatives we are compelled to combine both the practical and the ideal.

Committee on Maternal and Infant Welfare

A. E. Thomas, Chairman

The Committee on Maternal and Infant Welfare during the past year has confined its work to recommendations made in previous reports.

Keeping in mind the principle causes of maternal deaths in Alabama, we have had several papers presented at district meetings on infection, hemorrhage, abortion and eclampsia.

We regret to inform you that there were nineteen more maternal deaths in Alabama in 1938

than in 1937, whereas most every other state in the Union shows a decline in their maternal deaths. There were one hundred and eighteen deaths due to septicemia. Infection continues to lead the way and yet it requires the least amount of effort to prevent.

Four thousand three hundred and thirty-three (4,333) white mothers were delivered without the services of a physician, and 17,487 Negro mothers were delivered by midwives. For the great majority of the 31,779 births attended in the home by a physician there was no nurse to aid in caring for the mother and the child.

We also regret to report that there continues to be a lack of appreciation of modern obstetric thought and precept. In certain localities there is a lack of cooperation with the many forces promoting progress in obstetrics.

Prenatal clinics are growing and new ones are being organized. We appreciate your cooperation. There are 3,767 new patients receiving care in these clinics. Seventeen counties are co-operating, of which, eleven were organized this year. Seven thousand four hundred and sixty-six dollars (\$7,466) were paid to sixty doctors for their services in these clinics. With the adoption of the Wagner Act we sincerely hope these clinics will cover the entire State.

With a multiplicity of causes you will readily understand that a small committee cannot cover the entire State.

In order that we may secure direct information on the maternal situation in each county, your Committee requested the president of each County Medical Society to appoint a local committee of three on maternal welfare. It shall be their duty to study the problem as it appears in their county and make recommendations to the State Committee. We expect to furnish simplified mortality study forms which we hope you will fill out and establish the cause or causes of maternal deaths and state your recommendations for their prevention. By appointing such a committee your State Committee and the State agencies have a better approach to each county. With such a set-up you are in a better position to cooperate with all existing agencies. We earnestly solicit your cooperation. We expect to furnish you all the information at our disposal.

Through the cooperation of the American Committee, "The Birth of a Baby" is being shown at several points in Alabama. We feel that it marks a definite step toward lay education and we hope it receives your cooperation.

Your Committee recommends that the Association send two representatives to the American Congress on Obstetrics and Gynecology in order that they may familiarize themselves and their county chairmen with the activities in other states.

Your Committee highly recommends this Congress as a week of postgraduate study. The program of the Congress consists of our present day medical, nursing and health problems from a scientific, practical, educational and economic viewpoint as far as they relate to human reproduction and maternal and neonatal care.

In submitting its report the Committee on Maternal and Infant Welfare merely summarizes its

activities for presentation at this hour. The detailed report will be found later in the Journal of the Association.

Committee on Prevention of Cancer

J. P. Chapman, Chairman

During the year 1938, sixteen hundred forty-three (1643) deaths from cancer in Alabama were reported to the Department of Public Health. From a survey of the State, recently made by this Committee, it would appear that there were approximately 6,000 cases of cancer seen by the profession during that year. Cancer is one of the leading public health problems, ranking, nationally, second to cardiovascular diseases as a cause of death. In Alabama it takes first place as the cause of death in women between the ages of 35 and 65. One out of every seven individuals reaching the age of 25 years will develop cancer. Seventeen thousand (17,000) citizens of our State have been marked to die of cancer during the next ten years unless educational efforts, early recognition and adequate treatment may effect a saving of the lives of from one-third to one-half of these individuals.

Any beneficial results to be obtained in cancer control must come through a publicity campaign which should include also the physicians of the State. The "key man" in any cancer control effort must be the family physician, who has the opportunity of teaching his clientele reaching the cancer-bearing period to be alert in detecting precancerous lesions, and in presenting itself for periodic examinations. Early diagnosis is the watchword of cancer control. The physician who views with complacency the apprehensions of a cancer-minded patient, failing to make a thorough fact-finding examination, becomes a party to the statement that "procrastination is the thief of life in cancer." Your Committee is often requested to direct inquirers to physicians who will make careful examinations to determine their condition.

Publicity must be given the slogan, "Fight cancer with knowledge." The danger signs must be made known so generally that individuals will present themselves as early as possible for examination. Statistics prove that cancer can be cured, and that the individual has a four to six times better chance for a cure when the lesion is treated early than when treated late. The danger signs which should be posted publicly are as follows:

1. Any persistent lump or thickening occurring anywhere in the body, especially in the breast;
2. Any irregular bleeding or discharge from any of the body orifices;
3. Any sore that does not heal, particularly about the tongue, mouth or lip;
4. Persistent indigestion, or difficulty in swallowing;
5. Sudden changes in the form or rate of growth of a mole, wart or wen;
6. Hoarseness, gradual in onset, prolonged in duration, without explanation.

This group of signs and symptoms should be kept in mind by the physician as well as the public.

FACILITIES FOR TREATMENT

A survey of the facilities for treating cancer was made through questionnaires sent all physicians residing in centers over 5,000 in population, and of centers of less population but having a hospital. The prompt cooperative response was greatly appreciated and indicated an active interest in this problem. Diagnostic x-ray units were found well distributed over the State. For deep therapy, we listed only those x-ray machines capable of producing radiation from 200 kilovolts or over. This equipment was found in Madison, Morgan, Etowah, Calhoun, Jefferson, Montgomery, Pike, Barbour and Mobile Counties, with a total of 18 installations. It is reported that other installations of deep therapy machines will be made in a short time in Lauderdale, Cullman, Houston and Dallas Counties. Radium amounting to 1743 mgms. is distributed, from 50 mgms. in a few counties to 561 mgms. in one county, the counties being the same as for deep x-ray equipment, but in addition Dallas, Houston, Lauderdale, Lee, Randolph and Talladega. Fifty (50) mgms. are owned by Randolph County and 100 mgms. by Jefferson County. According to the United States Public Health Service the estimated amount of radium needed is 2000 mgms. per 1,000,000 population. The supply in Alabama is inadequate, but fortunately our death rate from cancer is lower than for the United States. There may be need for one or two more deep therapy installations in our State.

A SUGGESTED PROGRAM

Private patients usually find a place for adequate treatment. The indigent cases need direction and assistance in securing satisfactory treatment. Cancer centers or tumor clinics should be designated in the different districts of the State. Any group of physicians may organize such a tumor clinic provided it is organized according to the suggestions of the American College of Surgeons. Such a clinic must be built around a surgeon, a pathologist, radiologist and other specialties if possible to be represented. In such a clinic the diagnosis and treatment of cancer must be viewed as a group problem. Arrangement can be made for pathological study, if not available locally. Besides the diagnostic facilities, the x-ray equipment must include a unit of 200 (or over) kilovolts for deep therapy. A minimum of 100 mgms. of radium should be available, although 200 mgms. is suggested by the College of Surgeons. The qualifications of any group desiring recognition should be filed with the Committee.

Each County Medical Society is urged to appoint a cancer committee to work in cooperation with the State Committee. It is suggested that at least two meetings each year be arranged for a discussion by local members, or visitors, of some phase of cancer. The county committee is also urged to be available for a discussion of the subject before lay groups, provide information through the local press, and distribute literature to further the educational program.

The Committee feels that it will be of very great help in the prevention and control of cancer if certain literature, pamphlets, etc., can be distributed to physicians. A Cancer Manual, issued

by the Iowa State Medical Society, distributed by their cancer committee, is available at a cost of about thirty-five cents each, and contains authoritative information. The Committee on Prevention of Cancer feels that a distribution of this manual to all of our doctors will be of incalculable value.

Each physician is urged to report the finding of cancer patients on the notification cards in compliance with the action of the State Board of Health in making cancer cases reportable. Physicians should report the location of the cancer, as breast, uterus, etc. This will be of great service to the Committee in its activity.

There is great need for a pathologist in the State organization to make tissue examinations for indigent cases. If such facilities could be arranged it would be of great aid in cancer control activities. Dr. Stuart Graves, Dean of the Medical School of the University of Alabama, has indicated his willingness to help make pathological study of cases needing such service until such time as other arrangements can be made. This is a most generous offer which the Committee deeply appreciates.

The Committee feels the need of providing funds for the transportation and expense of treatment of indigent patients, if progress is to be made in cancer control in our State. The State of Georgia has appropriated \$50,000 each year for two years for similar work, and the cancer board reports most excellent results. If it is possible, we would like to see an effort made to secure funds in Alabama to carry on a program of this type.

Cooperation with the Women's Field Army of the American Society for the Control of Cancer is heartily recommended as an opportunity of enlisting the women of Alabama in an active educational campaign. Seventy (70) per cent of funds raised in this organization will ultimately be returned to the State for cancer control work.

Appreciation is hereby expressed for the cooperation of Dr. J. N. Baker, State Health Officer, and his staff in every program suggested by this Committee. We would also publicly recognize the untiring efforts and valuable assistance of Dr. Eva F. Dodge, Associate in Charge, Division of Maternal Hygiene, Bureau of Hygiene and Nursing of the State Department of Health. Dr. Dodge has served as Secretary of the Committee.

Committee on Prevention of Blindness and Deafness

A meeting of the Committee on Prevention of Blindness and Deafness, composed of Drs. Lucien Brown of Gadsden, J. T. Cater of Montgomery, and B. B. Warwick of Talladega, was called in Talladega, January 8, 1939, with officials of the Institute for the Deaf and Blind. Dr. Warwick, because of illness, was unable to attend. At the request of the State Health Officer, Mr. Cooper Brougner, of the State Department of Health, attended the meeting for the purpose of gathering statistics on the incidence of ophthalmia neonatorum, in response to a request from the National Society for the Prevention of Blindness. His study disclosed a marked and encouraging reduction in

the incidence of this disease, as only fifteen cases were reported in 1937.

At this meeting medical problems relating to the pupils of the institution were discussed, particularly those bearing on the problem of blindness. Attention was centered on the fact that facilities were not available to the Institute whereby adequate services from ophthalmologists and otologists could be obtained. Such service has been limited to the attendance of one ophthalmologist and one otolaryngologist for one day a year.

Since becoming Chairman of this Committee, and after visiting the Institute during his first year of service, the Chairman had hoped for an opportunity of doing a complete eye examination on each child in the School for the Blind. Such opportunity did not present until this year. He has, therefore, arranged to devote two days of each month to work in the school, looking to this end. At the time of making this report only some fifty examinations have been made, which reveal the great need for a complete examination of each child in the school. The Superintendent of the Institute has been thoroughly co-operative and has expressed a desire that the same type of careful examination be applied to the deaf population of the Institute. Your Committee strongly feels that an examination of all children both before and after admission should be provided. The Committee is hopeful that this service can be arranged for in the early future. To bring this about your Committee recognizes that certain changes in the present law governing admission to this institution and of the medical service of a specialistic nature now provided for the pupils will have to be made. These changes appear to your Committee to be of such importance as to claim the attention of the Legislature when it reconvenes in July.

Committee on Postgraduate Study

Ralph McBurney, Chairman

Since the Committee came into being in 1936, two fields of endeavor have been focused upon:

- (1) Syphilis Control, 1936-37; and
- (2) Pneumonia Control, 1937-38.

Realizing a needed departure from a yearly program dealing with a subject having more to do with preventive medicine than with subjects of specific clinical interest to general practitioners, the Committee, with the cooperation of the State Health Officer and his staff, formulated plans for a permanent program of organized postgraduate teaching and clinical instruction by representative specialists.

Inasmuch as Dr. Maxwell E. Lapham, Director of the Division of Medical Extension, Tulane University, had successfully organized such courses in Louisiana, Mississippi, and elsewhere, he was asked to present to the State Board of Censors a brief summation of the work as he had directed it, with tentative recommendations for an effective organized postgraduate course of clinical instruction in Alabama. This he did at the last annual meeting of the Association held in Mobile.

Acting upon recommendation of the two agencies mentioned, the State Board of Censors, at a meeting held April 18th, 1938, recommended the following which was approved by the Association.

(1) That the Association go on record as approving a plan for providing postgraduate and refresher courses for physicians of this State;

(2) That an amount of Association funds not to exceed \$1,000 annually be used during the next three years for this purpose;

(3) That a fee of \$5.00 be charged each physician desiring to participate in the course; and

(4) That the selection of subjects to be presented, together with the working out of the necessary details connected with such courses, be left to the State Board of Censors, working in close cooperation with the Association's Committee on Postgraduate Study, and the Director of these extension courses connected with Tulane University.

Through the joint activities of the State Health Officer and Dr. Lapham, working with the Committee, final plans were drafted at a meeting held in Dr. Baker's office at Montgomery, January 29, past, providing for an extension course in Internal Medicine. As the result of the efforts of Dr. Lapham, the services of two able and thoroughly qualified instructors were secured to conduct such course. The instructors are Dr. V. P. Sydenstricker and Dr. J. L. Wilson. Dr. Sydenstricker has been Professor of Medicine at the University of Georgia since 1922. He is also Physician-in-Chief of the University Hospital in Augusta and has had a long experience in teaching. He is outstanding in the field of clinical medicine and research and has contributed widely to medical literature. He received his medical training at the Johns Hopkins School of Medicine.

Dr. Wilson is Associate Professor of Medicine at Tulane University. He graduated from the Johns Hopkins School of Medicine and spent five years at the New York State Hospital for Tuberculosis. He was also instructor at the Trudeau School for Tuberculosis. For five years he was Assistant Professor of Medicine at the Yale University School of Medicine, from which position he went to Tulane as Associate Professor of Medicine.

Each instructor will offer three lectures on clinical subjects: Dr. Sydenstricker on nutritional diseases, diabetes, and peptic ulcer; Dr. Wilson on cardiac diseases, acute infections and pulmonary diseases.

In addition to lectures upon these subjects, round-table discussions and clinical demonstrations will be held, when patients are available through physicians, in lecture centers where courses are offered. The course also provides for a consultation service, by the instructor, to any physician requesting such when the instructor is in his locality. In addition, instructors are available for talks before lay groups upon request.

Courses are to be conducted by the circuit method. The State is divided into six circuits, each circuit being divided into five lecture centers, reaching sixty-seven counties in all. The final provision is made for the entire series to be given for Negro physicians of Jefferson County in Birmingham.

As this report is being written the first lecture of the series has been given before an enthusiastic and representative group of physicians at Tuscaloosa as the lecture center, for Tuscaloosa, Lamar, Fayette and Pickens Counties. Extreme interest and delight has already been expressed in the first lecturer and his able presentation of the course. An even larger attendance is predicted for following lectures. To date, a total of ten lectures and clinics shall have been presented in five different centers, namely, Tuscaloosa, Demopolis, Selma, Clanton, and Birmingham; embracing a total of fifteen different counties.

The Committee trusts that every physician in the State will grasp the opportunity offered by such program since ultimate success depends entirely upon the cooperation of the Association members. The Committee earnestly urges that every physician register for and attend each lecture when given at his lecture center.

In addition to the above activities, the Committee and the State Department of Public Health, through the courtesy of and in cooperation with the Metropolitan Life Insurance Company are sponsoring the showing of a motion picture film on pneumonia for lay groups, which is being routed over Alabama to motion picture theaters. That it is being well accepted is evidenced by a letter from the Company, received March 3, by the State Health Officer which is quoted as follows: "You will probably be glad to know that to date we have received booking requests from 85 theatres in your State. This is about 35% of the theatres listed as open and by far the best showing we have had in any state following the first communication." Attendance at the showings in February was 63,824.

In conclusion your Committee desires to express its thanks to members of the Association for voting the necessary funds, which, in part, make possible the organization and presentation of organized postgraduate courses. Similarly we are grateful and indebted to Dr. Baker and his staff for their valued cooperation and helpful suggestions; likewise to Dr. Maxwell Lapham, Director, and Mr. William Boggs, Jr., Field Representative, of the Division of Medical Extension, Tulane University of Louisiana, for invaluable aid in the organization and operation of the courses. We trust that statistics on attendance, to be presented at the next year's meeting, will justify future continuance and expansion.

Committee on First Aid and Fractures

H. Earle Conwell, Chairman

During the last year we have made contacts with several County Medical Societies of the State and have discussed the question of first aid in fractures with these different counties, impressing upon them the importance of making contact with the local people in their respective communities as to giving first aid lectures and demonstrations especially to ambulance drivers, firemen and policemen.

The Committee feels as stated in the past reports that by making such contacts improvement of first aid and treatment of fractures will be and has been accomplished.

James Marion Sims Memorial Committee

James R. Garber, Chairman

Local obligation		\$1,785.00
Receipts:		
Appropriation from		
Association	\$1,000.00	
Contributed by members of		
Association	530.60	
Further grant by		
Association	254.40	\$1,785.00

*The President's Message**

President Harris read his message, which was referred, without discussion, to the Board of Censors.

The Scientific Program

GENERAL SESSION

Dr. E. B. Carmichael, University, read a paper entitled "Charles Alexander Pope, Native Alabamian, President of the American Medical Association in 1855."

Dr. A. R. Bliss, Jr., of Birmingham, read a paper entitled "A Plea for the Use of Pharmacopeia and National Formulary Drugs."

Symposium on hospitalization and medical care of the indigent embraced subjects and essayists as follows: "The Community Hospital"—Dr. W. H. Anderson, Booneville, Miss.; "Hospitalization of Alabama's Indigent Sick"—Dr. A. C. Jackson, Jasper; "The Alabama Hospital Plan"—Dr. F. H. Craddock, Sylacauga; and "Medical Cooperation with the Farm Security Administration"—Dr. E. L. Gibson, Enterprise, and Dr. J. Paul Jones, Camden. Dr. C. N. Carraway, Birmingham, and Dr. F. W. Pickell, Brewton, discussed the several subjects.

Miscellaneous Business

Resolutions introduced by Drs. A. A. Walker, Merle Smith and Douglas L. Cannon were referred without discussion to the Board of Censors.

Afternoon Session, Tuesday, April 18

2:00 P. M.

SECTION ON MEDICINE

Dr. W. D. Partlow, Tuscaloosa, presented a paper on the "Habitual Use of Alcohol in Alabama," which was discussed by Dr. J. A. Becton of Birmingham.

Dr. James Alto Ward, Birmingham, read a paper on "The Pathology of Obesity."

Dr. L. W. Roe, Mobile, read a paper entitled "The Treatment of Nephritis," which was discussed by Dr. T. C. Cameron, Faunsdale, and Dr. H. P. Shugerman, Birmingham.

"The Enema: Its Uses and Abuses" was the title of a paper read by Drs. Cecil D. Gaston and Howard B. Williams, Birmingham. It was discussed by Dr. J. E. Linn of Birmingham.

Dr. Harry M. Simpson, Florence, presented a paper entitled "The Importance of Early X-Ray Diagnosis in Gastro-Intestinal Diseases," which was discussed by Dr. K. F. Kesmodel of Birmingham.

Dr. Andrew L. Glaze of Birmingham read a paper on "The Prophylaxis of Acne Vulgaris," discussed by Dr. Toulmin Gaines, Mobile, and Dr. C. O. King, Birmingham.

Dr. T. K. Lewis, Birmingham, presented a motion picture entitled "Coronary Occlusion."

SECTION ON SURGERY

Drs. J. O. Finney and J. O. Morgan, Gadsden, read a paper entitled "Acute Purulent Pericarditis: Case Report," which was discussed by Dr. Henry R. Carter of Birmingham.

Dr. Adrian Taylor, Clifton Springs, New York, presented a paper on the "Clinical Aspects of Thyroid Disease," which was discussed by Dr. S. L. Ledbetter, Jr., Birmingham.

Dr. Paul W. Shannon, Birmingham, read a paper on "Chronic Back Pain," discussed by Drs. John Sherrill and Ralph Terhune of Birmingham.

Drs. Marcus Skinner and J. P. Chapman of Selma presented a paper on "The Diagnosis and Treatment of Peptic Ulcer from the Medical and Surgical Points of View," which was discussed by Dr. J. O. Lisenby of Atmore, Dr. Frank Wilson, Birmingham, and Dr. F. G. DuBose of Maplesville.

Dr. Earle Drennen read a paper, with report of cases, on "Cancer of the Colon and Rectum," discussed by Dr. W. R. Meeker, Mobile, and Dr. Brannon Hubbard, Montgomery.

Dr. J. S. Turberville of Century, Florida, presented a paper entitled "Prostatic Diseases from the Standpoint of the General Surgeon."

Dr. Walter Scott, Birmingham, drew

*May Journal, page 369.

"Conclusions after Seven Years of Prostatic Resections," discussed by Dr. J. U. Reaves, Mobile, and Dr. Brannon Hubbard of Montgomery.

Dr. Seale Harris, Birmingham, gave a "Brief Review of a Successful Operation on the Heart Performed by Dr. L. L. Hill, Montgomery, in 1894."

Evening Session, Tuesday, April 18

8:00 P. M.

SECTION ON GYNECOLOGY AND OBSTETRICS

Dr. Jerre Watson, Anniston, discussed "Obstetrics in Relation to Maternal Morbidity."

Dr. Gilbert Douglas, Birmingham, presented a paper entitled "Gynecology and Endocrines: Day of J. Marion Sims and Now," discussed by Dr. Claud Johnson, Montgomery.

Drs. W. W. Harper and W. F. Harper of Selma dealt with "Pyuria: Its Significance and Treatment," discussed by Dr. Merle Smith of Parrish.

Dr. L. F. Turlington, Birmingham, read a paper on "Abnormal Uterine Bleeding," which was discussed by Dr. A. W. Ralls, Gadsden; Dr. R. S. Hill, Montgomery; Dr. W. F. Harper, Selma, and Dr. Claud Johnson, Montgomery.

SECTION ON PEDIATRICS

Dr. David B. Monsky, Montgomery, presented a paper entitled "Mediastinal Tumors in Children: Report of Case," discussed by Dr. J. F. Alison, Selma; Dr. Vaun Adams, Mobile, and Dr. Chas. Abbott, Tuscaloosa.

Dr. Chas. Abbott read a paper on "The Dietary Schedule up to One Year," which was discussed by Dr. Vaun Adams, Dr. B. T. Bristow of Bessemer, and Dr. Harris Dawson of Montgomery.

Dr. A. C. Gipson, Gadsden, gave a paper on "Diagnosis and Treatment of So-Called Three Months Colic," discussed by Dr. N. B. Cannady, Dothan, and Dr. Clifford Lamar, Birmingham.

Dr. J. H. Baumhauer, Mobile, read a paper entitled "The Management of Acute Gastro-Intestinal Intoxication in Infancy and Childhood," which was discussed by Dr. J. C. Gladney of Jasper; Dr. A. C. Gipson, Dr. Vaun Adams, Dr. Wallace Clyde of Fairfield, and Dr. John W. Simpson, Birmingham.

Drs. Hughes Kennedy and J. Samuel Smith, Birmingham, presented a preliminary

report on "Sulfapyridine: Its Use in Pneumococcic Infection," discussed by Dr. Wallace Clyde, Dr. A. A. Walker of Birmingham, Dr. Chas. Abbott, and Dr. Julian Howell of Demopolis.

Second Day, Wednesday, April 19

8:30 A. M.

SECTION ON PUBLIC HEALTH

A symposium on syphilis was participated in by Dr. W. H. Y. Smith, Montgomery, "Public Health Problems Encountered in Handling Syphilis;" Dr. C. K. Weil, Montgomery, "Syphilis in Private Practice—A Report of Cases Illustrating Some Problems of Management;" and Dr. Charles R. Lafferty, Montgomery, "Syphilis in Private Practice—A Differential Diagnosis of Genital Lesions," discussed by Dr. Ralph McBurney, University; Dr. Merle Smith, Parrish; Dr. J. U. Reaves, Mobile; Dr. T. K. Lewis, Birmingham; Dr. W. C. Hatchett, Huntsville; Dr. B. J. Massey, Enterprise; Dr. J. O. Finney, Gadsden; Dr. I. L. Connell, Birmingham, and Dr. W. W. Harper, Selma.

Dr. R. E. Harper, Tusculumbia, read a paper entitled "Tuberculosis Control Activities in a North Alabama County," which was discussed by Dr. Kellie Joseph of Birmingham, Dr. Woodfin Cobbs, Montgomery; Dr. L. W. Roe, Mobile, and Dr. John W. Simpson of Parrish.

Dr. J. N. Baker discussed, briefly, "Public Health Needs in Alabama."

Dr. G. S. Bryan of Amory, Miss., read a paper entitled "Reducing the Pneumonia Death Rate."

SECTION ON EYE, EAR, NOSE AND THROAT

Drs. H. B. Searcy and R. M. Clements, Tuscaloosa, presented a paper on "The Use of Vitamines in Eye, Ear, Nose and Throat Work," discussed by Dr. J. S. Blackmar, Columbus, Georgia, and Dr. Seale Harris.

Dr. J. H. Farrior, Montgomery, read a paper entitled "Five Year End Results of Treatment in Intra-Oral Cancer," which was discussed by Dr. J. D. Perdue of Mobile.

Dr. E. W. Rucker, Birmingham, dealt with "Hoarseness," discussed by Dr. T. F. Wickliffe, Jasper, and Dr. T. P. McGahey, Birmingham.

Dr. E. N. DeWitt, Bridgeport, Conn., read a paper entitled "Intra-Ocular Tumors."

GENERAL SESSION

The Jerome Cochran Lecture was delivered by Dr. George T. Pack, Attending Sur-

geon, Memorial (Cancer) Hospital, New York City, his subject being "Recent Advances in the Radiation Therapy of Cancer."

Dr. Tinsley R. Harrison, Professor of Clinical Medicine, Vanderbilt School of Medicine, addressed the Association on "The Therapeutic Approach to High Blood Pressure."

The paper of Dr. V. P. Sydenstricker, Professor of Medicine, University of Georgia, was read by title—"The Changing Concepts of Deficiency Diseases."

Miscellaneous Business

Vacancies in counsellorships were announced by the Secretary.

Resolutions introduced by Drs. J. R. Garber, W. M. Salter, T. F. Wickliffe and W. D. Partlow were referred without discussion to the Board of Censors.

The Association recessed for a barbecue at the home of Dr. and Mrs. R. S. Hill.

Afternoon Session, Wednesday, April 19

2:00 P. M.

GENERAL MEETING

Dr. Clyde Brooks, Professor of Physiology, Louisiana State University Medical Center, New Orleans, read a paper on "Blood Sedimentation."

Dr. Marion T. Davidson, Birmingham, discussed "The Prevention and Treatment of Allergy."

Drs. G. O. Segrest and J. E. Beck, Mobile, presented a "Report of a Case of Hyperinsulinism Cured by Removal of an Islet Cell Adenoma."

Dr. J. M. Mason's paper was read by title—"A Review of Progress in the Treatment of Empyema Thoracis."

Dr. James B. McLester, Birmingham, read a paper entitled "Pellagra and Its Modern Treatment, with Special Emphasis on the Borderline States."

UNVEILING OF THE STATUE TO JAMES MARION SIMS CAPITOL GROUNDS

4:30 P. M.

President Seale Harris presented Dr. J. R. Garber, Chairman of the Sims Monument Committee, who, in well chosen words, laid the predicate for addresses by Dr. M. Y. Dabney, Birmingham—James Marion Sims, "The Father of Modern Gynecology;" and Mrs. Marie Bankhead Owen, Montgomery—James Marion Sims, "Benefactor of Woman-kind."

The statue was presented to the State of Alabama by Dr. Garber and accepted by Mr. J. Miller Bonner, representing Governor Frank Dixon.

Evening Session, Wednesday, April 19

8:00 P. M.

PUBLIC MEETING

Medical education in Alabama was the theme of the meeting, with the following participating in the program:

Dr. C. C. Jones, East Lake—"Reminiscences of Medical Teaching Seventy Years Ago."

Dr. Toulmin Gaines, Mobile—"Alabama's Heritage from the Medical College of Alabama, the Medical Department of the University of Alabama, Mobile, from 1859 to 1920."

Dr. D. F. Talley, Birmingham—"History of the Founding of Birmingham Medical College."

Dr. Stuart Graves, University—"The Need for a Four-Year Medical School in Alabama."

Dr. Richard Foster, President of the University of Alabama, Tuscaloosa—"The University of Alabama and Medical Education."

Dr. James S. McLester, Birmingham—"Postgraduate Medical Instruction in Alabama."

Dr. W. D. Partlow, Tuscaloosa—"Legislation Providing for a Four-Year Medical School."

Hon. A. A. Carmichael, Lieutenant Governor of Alabama—"Alabama's Duty to Provide for a Four-Year Medical School."

Music for the occasion was furnished by Mrs. Lennard Thomas, soloist, accompanied by Mrs. C. Guy Smith, both of Montgomery.

The Association adjourned for a reception and dance at the Beauvoir Country Club.

Last Day, Thursday, April 20

8:30 A. M.

GENERAL SESSION

Dr. F. L. Chenault, Decatur, read a paper on "Sepsis—The Doctor's Number One Problem."

Dr. J. M. Donald, Birmingham, presented a paper entitled "Disruption of Post-Operative Abdominal Wounds."

The Association then took a brief recess to reassemble at 10:30 A. M. for the transaction of business as the Board of Health of the State of Alabama.

(To Be Concluded)

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

MARCH 1939

Examinations for diphtheria bacilli and Vincent's	790
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	500
Typhoid cultures (blood, feces, urine)	661
Examinations for malaria	1,185
Examinations for intestinal parasites	5,518
Serologic tests for syphilis (blood and spinal fluid)	18,711
Darkfield examinations	29
Examinations for gonococci	1,816
Examinations for tubercle bacilli	1,712
Examinations for Negri bodies (microscopic)	101
Water examinations (bacteriologic)	911
Milk examinations	2,165
Pneumococcus typing	203
Miscellaneous	680
Total specimens	34,982

DIAGNOSIS OF PINWORM INFESTATION

The diagnosis of *Enterobius vermicularis*, the human pinworm or seatworm, may be based on (1) the capture of gravid females migrating out through the anus to deposit their eggs on the skin of the perianal region, or the capture of adult worms following purgation or enemas; (2) recovery of ova in scrapings from under the fingernails; (3) recovery of ova in feces; or (4) recovery of ova in perianal scrapings.

The capture of adult worms or the examination of fingernail scrapings are not procedures suited to practical routine work. The examination of feces for ova of pinworm by any method is unreliable since the adult female usually crawls out of the anus and deposits her eggs in the perianal region instead of depositing them in the lumen of the intestine where they would pass out in the feces. However, if pinworm ova are found in the feces, a positive diagnosis may be made without hesitancy, but in the case of negative findings no conclusions whatever may be drawn from the examination.

The examination of perianal scrapings gives the most dependable information possible in regard to the presence of pinworm infestation. Various types of swabs and

scrapers have been used in obtaining perianal scrapings. All of these scrapers and swabs, with the exception of the cellophane N. I. H. (National Institute of Health) swab, recently described by Hall,¹ possess the disadvantage of opacity, necessitating the removal of adherent ova by washing or rubbing off onto a slide with the consequent danger of missing ova if they are few in number.

The N. I. H. swab devised by Hall for diagnosing pinworm infestation has many advantages. This swab consists of a cellophane-tipped glass rod, placed through a rubber stopper and fitted into a tube. The glass tube prevents the loss of material in transportation. The folds of the cellophane permit the proper amount of scraping, and, in addition, the ova stick to the cellophane. The cellophane tip, held on the rod by a narrow rubber band, is placed on a slide, flattened out, and examined under the microscope. Repeated examinations of perianal scrapings are an advantage as the adult pinworm deposits eggs intermittently. Headlee² in 1935, studying a group of individuals in a hospital for the insane, found by direct fecal smear apparently no pinworm infestation; in the same group a fecal examination by salt flotation showed 3.37% infested, while an examination by perianal scrapings raised the positives to 22 per cent. Bozicevich and Brady³ by a series of four scrapings recently obtained 57.3% findings in a group of 504 boys in Washington; they state that this percentage would have been higher if more scrapings had been made.

The N. I. H. swab should be used and examined shortly after its preparation as the cellophane is difficult to flatten out on a slide if it is allowed to remain wrapped around the glass rod for more than a few days. For the above reason the N. I. H. swab will not be sent out routinely. Physi-

1. Hall, M. C.: Studies on Oxyuriasis. I. Types of Anal Swabs and Scrapers, with a Description of an Improved Type of Swab, *Am. J. Trop. Med.* 1937, 17:445.

2. Headlee, W. H.: Studies on Infections of Human Parasitic Worms under Institutional Conditions, *J. Lab. & Clin. Med.* 1935, 20: 1069.

3. Bozicevich, J. and Brady, F. J.: Studies on Oxyuriasis. XV. A Study of Five Hundred and Four Boys in a Boys' Camp, *M. Ann. District of Columbia*, 1938, 7:187.

cians interested in having examinations for pinworm made by this method may obtain N. I. H. swabs as needed by writing to the Montgomery Laboratory.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

SCHOOL EXAMINATIONS

The following article was written by Dr. Carl A. F. Holler, DeKalb County Health Officer, and contains information that should be interesting and helpful to physicians and county health personnel.

It would seem that the value of periodical examination of school children is underestimated. It must be recognized that a reasonable school examination as and when prescribed by the manual demands a lot of time and hard work from the personnel of a health department. As in most phases of health work the ultimate resulting good can not be determined from one year's experience. The ultimate good should not be evaluated until such examinations will have been in conscientious operation over a period of years. A health examination and a few kind words inspire confidence of the child in health practices.

Reasons why health examinations of school children should occupy a substantial portion of time from a health department are:

1. The easiest and most efficient way of entering the home in person or in spirit is through the school child.

2. This age group reveals the largest number of deficiencies of all age groups. The infant and preschool child are treated as such and are given certain advantages. After he becomes a school child he leaves this baby class and is left more or less upon his own resources. After the sixth grade he is usually in a fair position to shift for himself—to be the first to the table so to speak.

3. Habits in health are cultivated in our rural districts in the school rather than in the home. It is fair to say that a majority of health habits and practices enter the home through the school. This would definitely be the case were we to make our school examinations as prescribed.

4. How can one-fourth of a population be more cheaply and beneficially contacted than through the school examination?

5. Children learning sanitation at school carry such information to the home.

6. Since public health is primarily an educational procedure to be performed with groups, why not stress the school room as a point of vantage?

7. Teachers are more than anxious for the opportunity of health promotion. They need only to be properly approached, given consideration and educated to a degree in public health necessities.

8. No doubt there are phases of public health more fascinating but probably none more productive of eventual and continuing benefit.

In DeKalb County in 1938, six hundred thirty-one (631) preschool children were examined in April. It is definitely known that corrections were made in a sufficient number of cases to warrant the procedure of examinations.

In 1938 in DeKalb County, 4,434 school children were examined. All of the 72 schools were included. The smaller and less easily accessible schools were examined first so as to avoid not being able to keep appointments by reason of bad weather and roads. It would be hard to figure the actual good accomplished. Supplementary feedings are being supplied in a number of the schools. Drinking fountains and individual cups are gradually replacing the pail and dipper. Children are realizing that milk is No. 1 in their diet. Sanitary privies are properly caring for excreta disposal. Principals delegate groups weekly to see that privies are kept clean. We have in this county school privies as clean and inoffensive as usual living rooms. Seats and lids are scrubbed twice each week. We should not forget that there is an esthetic side to the twentieth century way of living. You should not be led to believe that these conditions are 100%, but every indication gives us reason to believe that it will be before many years. All this can be directly attributed to cooperation and interest of schools and the County Health Department.

Since 29.5% of school days lost are due to illness, and since school appropriations are made in accordance with the attendance days in school, we find that public health in schools will have a direct bearing on the economic structure of the Nation.

Most of us dread school examinations and maybe it is for that reason that we see little if any ultimate good in doing them. We should begin school examinations as soon as possible after the school term begins. This would complete the average county by Christmas. If in the rural sections school takes up at seven why not be there at seven so that a day's work may be completed by one o'clock when school turns out. And what is prettier than early morning in the fall in Alabama. The matter of doing the examinations must be definitely systematized. Home slips are the order and should be simple enough as not to be confusing. Our biggest joker was filling out compilation sheets. In the smaller schools this was impossible, and unsatisfactory in most of the larger schools. Most of ours were completed in the office during spare time. The entire personnel of a department can hoe out a mighty long row of compilation sheets in one rainy Saturday afternoon. We attach to each compilation sheet a brief description of its importance.

We feel that our work has been more than justified. Cooperation of teachers has improved greatly over last year. We feel that over a period of years the school program will have provided one of the best investments of the County Health Department. And, too, we feel somewhat obligated since the Department of Education provides generously in a financial way toward the maintenance of a number of county health departments including DeKalb. School examinations led to the vaccination of 2,904 children for

smallpox and 1,879 diphtheria inoculations in our county in 1938.

Of course, it is impossible to have all corrections of defects made. However, through the increasing cooperative spirit of school, P.-T. A. and civic organizations we should be able to show some very gratifying results over a five-year period.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

AN OUTBREAK OF OPHTHALMIA DUE TO A GONOCOCCAL INFECTION

An unusual outbreak was reported in Alabama this year with the occurrence of a large number of cases of ophthalmia among the students of one of the rural schools. The outbreak was discovered when one of the pupils was brought to a physician for treatment and laboratory examination revealed that the causative organism was the gonococcus.

Prompt investigation revealed that there had been in all thirty-nine cases of ophthalmia in this school out of an enrollment of about 140. Some of the cases were convalescent when first seen and no organisms could be recovered, but nine of them were proven by laboratory examination to be due to the gonococcus. It is safe to assume that the others were of the same infection.

The disease was introduced into the school by a boy who in turn had acquired his infection in his home from an adult similarly infected. The spread throughout the school was probably by direct transfer of infective material by hands, handkerchiefs, books, etc. Cleanliness facilities were very deficient as the only hand-washing facility was a pump in the school yard.

Knowing the causative organism, it was suspected that there might be some genitourinary infection as well so all the pupils were examined for evidence of genital infection. None of the boys were found to be infected, but seven small girls were found with a gonorrheal vaginitis. These were all very young girls and none of them had any eye infection so that the spread was not by auto-inoculation.

The toilets were wooden construction pit privies—not of an approved type—and the spread of infection could readily be accounted for by these, plus the inadequate washing facilities.

This outbreak is of particular interest as

it is the first such epidemic on record with the State Department of Health. It reveals what can happen to any infection, however, once introduced into a school population and particularly in a school without adequate safeguards to the health of the children in the way of sanitation and cleanliness.

DARKFIELD EXAMINATION

Early diagnosis of syphilis is imperative if this disease is to be controlled. The earlier the disease is diagnosed the less chance there is for spreading it and the greater chance there is for eradication or "cure" of the disease. The percentage of individuals whose diagnosis is made in the sero-negative primary stage must be small judging from the number of darkfield examinations that are made by the laboratories of the State Department of Health. Yet, when treatment is begun in this stage of the syphilis infection, better ultimate results are obtained than when it is begun in any other stage.

Obtaining serum for a darkfield specimen is not difficult. In fact, it is fairly easy in comparison with the procedure for obtaining spinal fluid or blood.

The suspected lesion should be cleansed with either saline solution or water. After drying with gauze it is gently rubbed with another piece of gauze until slight bleeding occurs. Two or three moments of pressure stop the bleeding and clear serum oozes out. It is necessary to wait a minute or so in order that a large drop of serum will form. The capillary tube is then placed at a 45° angle in the drop of serum and capillary attraction ensues. The tube should be filled from one-third to one-half of its length in order to have enough serum for a darkfield examination. Both ends are dipped in wax. Telegraphic reports will be sent on request.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

A REVIEW OF THE TYPHUS FEVER SITUATION IN ALABAMA

WITH SPECIAL REFERENCE TO ITS PRESENT STATUS

The incidence of endemic typhus fever in Alabama during 1938 showed a decline for the first time since 1934. According to the records of the Bureau of Preventable Diseases, there were 153 fewer cases in 1938

than in 1937, and, with the exception of the month of February, the number reported each month was smaller than in the previous year.

The highest incidence of the disease is still confined to the towns and villages of the southeastern part of the State. During the year 1937, there were 161 cases of typhus fever on rural routes and 327 from centers of population. In 1938 there were 114 on routes and 221 from small towns and cities.

In the past, very few cases had occurred in the extreme southwestern counties of the State, especially those along the Mississippi border. In the late summer of 1938 it began to appear in Clarke, Choctaw, Sumter, Perry and Marengo Counties. Seven cases occurred in Demopolis, four in Uniontown, and two in Greensboro. Control measures were instituted at these points and to date there has not been a recurrence of the disease.

It is possible that the opening of improved highways recently through this territory has aided in the migration of typhus infected rats, and new reservoirs of the infection have been established.

An outbreak occurred in a small town in Dale County the latter part of December. Nine cases developed in one family with two deaths attributed to it. According to the clinical histories received from this neighborhood, the disease seemed more virulent than in other areas.

A few cases are still being reported from the northern part of the State.

Due to the fact that the control program of rat-proofing and extermination work has had to depend almost entirely on federal and other outside agencies, its operation has been limited. Effective work was done in fifteen counties. In a number of counties showing a high incidence of the disease neither federal nor local aid could be obtained.

In the infected areas where the combined methods of control were applied, there has been a reduction of 40 per cent in the number of cases occurring, as well as a decrease in the fatality rate. On the other hand, counties in the infected areas where control was not carried on show a decided increase.

The operation of these projects proved definitely that the incidence of the disease can be lowered by a reduction in the rat popula-

tion in the infected areas and its spread curtailed.

On November 2, rat-proofing was prohibited entirely by the Works Progress Administration, and extermination work was limited to rural areas or towns not exceeding 2,500 population. These restrictions will reduce the scope and effectiveness of the project considerably, the rat-proofing being of permanent value as a health measure as well as a standard for construction in the future. Extermination work is of value only in reducing or eliminating the infected rats and is therefore a temporary procedure.

It is felt that if the department could continue the operation of the program on a wide scale, a further reduction of the incidence of typhus fever could be obtained during 1939. A decrease in the number of infected rats in these areas would also tend to retard wider distribution.

The department will continue the educational program and institute rat extermination work in the infected areas as long as labor can be made available from the relief rolls and funds for material can be secured.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1939

	Feb.	March	Estimated Expectancy March
Typhoid	16	6	11
Typhus	12	17	7
Malaria	56	140	61
Smallpox	6	4	5
Measles	917	1026	1166
Scarlet fever	83	88	56
Whooping cough	99	183	146
Diphtheria	39	38	55
Influenza	785	5738	705
Mumps	128	131	187
Poliomyelitis	6	2	2
Encephalitis	1	4	2
Chickenpox	206	222	245
Tetanus	3	5	3
Tuberculosis	248	223	310
Pellagra	11	12	29
Meningitis	14	10	15
Pneumonia	584	558	534
Syphilis	1430	1670	315
Chancroid	6	10	7
Gonorrhea	248	266	209
Ophthalmia neonatorum	2	0	2
Trachoma	0	0	0
Tularemia	3	2	1
Undulant fever	3	6	1
Dengue	0	0	0
Amebic dysentery	0	0	0
Rabies—Human cases	0	0	0
Positive animal heads	21	34

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Book Abstracts and Reviews

A Practical Treatise on Diseases of the Skin. By Oliver S. Ormsby, M. D., Clinical Professor and Chairman of the Department of Dermatology, Rush Medical College of the University of Chicago; Dermatologist to the Presbyterian and Saint Anthony's Hospitals, and the Home for Destitute Crippled Children; Consulting Dermatologist to the Orphan Asylum of the City of Chicago; Member of the American Dermatological Association. Corresponding Member of the Section of Dermatology of the Royal Society of Medicine, London; Corresponding Member of the Societe Francaise de Dermatologie et de Syphiligraphie Paris; Corresponding Member of the Dansk Dermatologisk Selskab, Copenhagen; Honorary Member of the Wiener Dermatologische Gesellschaft, Vienna; Honorary Member of the Japanese Dermatological Society, Tokio. With Revision of the Histopathology and Mycology. By Clarke Wylie Finnerud, B. S., M. D., Assistant Professor of Dermatology, Rush Medical College of the University of Chicago; Assistant Attending Dermatologist to the Presbyterian Hospital of Chicago; Member of the American Dermatological Association; Corresponding Member of the Wiener Dermatologische Gesellschaft, Vienna. Fifth edition thoroughly revised. Cloth. Pp. 1,334, with 658 engravings and 3 colored plates. Price \$12.00. Philadelphia: Lea and Febiger, 1937.

The book opens with chapters on the anatomy and physiology of the skin and the generalities concerning skin disorders. Each disease is then covered, giving symptoms, etiology, diagnosis, treatment and prognosis.

Diseases of the Skin is an excellent book for the specialist and one of reference for the general practitioner who is interested in skin disorders.

W. H. Y. S.

The Vaginal Diaphragm. By LeMon Clark, M. D., Chicago, Illinois. Author of "Sex Education" and "Emotional Adjustment in Marriage." Cloth. Pp. 107. Price, \$2.00. St. Louis: The C. V. Mosby Company, 1939.

The author sets forth in the introduction the reason for this monograph. It is to give the physician detailed information regarding the technique of the vaginal diaphragm.

He outlines the physician's duties as: "First, to see that the patient is properly instructed in the method so that she understands it; second, to fit the patient with a diaphragm of the right size and of a type suited to her particular needs and anatomical requirements; and third, to drill her in the insertion and removal of the diaphragm until she has acquired an aptitude for using it correctly."

This monograph contains detailed information regarding this method of contraception which has been needed and which has not been available in this form for the physician who has not been able to obtain special training along these lines. There are numerous diagrams illustrating the text which clarify the written direction. There is a good index.

There are a few places where one wishes the author would go into greater detail. In the section describing the douche he does not state whether it should be taken lying down or sitting up. Again, he explains that the physician should know the patient is not pregnant when fitted to avoid placing the blame on the method in the failure to prevent conception. The reviewer made it a practice in fitting a diaphragm to explain to the patient that she was not to use the diaphragm as a contraceptive until after the next menstrual period. Frequently the patient was given the

diaphragm and a lubricating jelly for use in insertion. After explaining that the jelly was not of value as a contraceptive, she was told to return for the contraceptive jelly immediately following the next menses.

The author seems to feel that the success of the method described depends upon the physician's mechanical ingenuity and patience. "But above all, he must have a real sympathy toward the emotional rather than the purely physical or physiological problems of his patients." He feels that physicians should help these women to space their babies who should begin to arrive not later than the third year of marriage.

No physician, who is interested in giving his patients preconceptional or contraceptive advice, can afford not to have this book in his library.

E. F. D.

Truth About Medicines

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Racephedrine Hydrochloride.—Racemic ephedrine hydrochloride. — d-l-ephedrine hydrochloride.— $C_{10}H_{15}ON.HCl$.—The actions and uses are the same as those of the ephedrine salts (New and Nonofficial Remedies, 1938, p. 223.)

Immune Globulin (Human) (*The Journal*, Nov. 5, 1938, p. 1767).—Prepared by the method of McKhann from fresh, healthy human placentas; the globulin is reprecipitated to reduce the content of other tissue proteins and hemoglobin. Merthiolate 1:4,000 is added as a preservative. Each lot is tested for sterility. The product is marketed in 2 cc. and 10 cc. glass syringes with chromium steel needles for parenteral use. National Drug Company, Philadelphia.

Rabies Vaccine (Killed Virus) (New and Nonofficial Remedies, 1938, p. 402).—Also marketed in packages of seven vials, each vial containing 2 cc. Medical Arts Laboratory, Inc., Oklahoma City.

Mead's Nicotinic Acid Tablets, 20 mg.—Each tablet contains nicotinic acid (*The Journal*, July 2, 1938, p. 27), 20 mg. Mead Johnson & Co., Evansville, Ind.

Nicotinic Acid-Abbott.—A brand of nicotinic acid-N.N.R. (*The Journal*, July 2, 1938, p. 27.) It is marketed in the form of tablets, 50 mg. and 100 mg. Abbott Laboratories, North Chicago, Ill.

Stovarsol Tablets, 0.1 Gm.—Each tablet contains stovarsol (New and Nonofficial Remedies, 1938, p. 100), 0.1 Gm. Merck & Co., Inc., Rahway, N. J.

Stovarsol Tablets, 0.05 Gm.—Each tablet contains stovarsol (New and Nonofficial Remedies, 1938, p. 100), 0.05 Gm. Merck & Co., Inc., Rahway, N. J.

Ampoules Estrone, 0.5 mg. in Oil, 1 cc.—Each cubic centimeter contains estrone (*The Journal*, Oct. 1, 1938, p. 1301) 0.5 mg. (5,000 international units) in sesame oil. Abbott Laboratories, North Chicago, Ill.

Iodeikon Emulsion Powder-Abbott.—Iodeikon (New and Nonofficial Remedies, 1938, p. 218) 33.34 per cent in a vehicle composed of malt sugar 37.30 per cent, powdered cocoa 18.30 per cent, tartaric acid 8.25 per cent, vanillin 2.20 per cent, saccharine 0.54 per cent and menthol 0.07 per cent. Abbott Laboratories, North Chicago, Ill.

Hypodermic Tablets Digitalin (German, Pure, Merck), 0.00065 Gm., 1/100 grain-Upjohn.—Each tablet contains digitalin, "German" (New and Nonofficial Remedies, 1938, p. 191), 0.00065 Gm., 1/100 grain. The Upjohn Company, Kalamazoo, Mich.

Tuberculin Ointment (Wolff)-Lilly (New and Nonofficial Remedies, 1938, p. 408).—A culture of human tubercle bacilli (H-37) of four weeks' growth in glycerin broth, sterilized, evaporated to one-fifteenth its original volume and triturated to a smooth mixture, to which 0.4 per cent of phenol is added as a preservative. It is proposed for use as a tuberculin test by the patch method. Marketed in packages of one 2 Gm. collapsible tube with a 2 Gm. control tube. Eli Lilly & Co., Indianapolis, Ind. (J. A. M. A., April 1, 1939, p. 1257.)

Cinchophen-The Upjohn Company.—A brand of cinchophen-N. F. (New and Nonofficial Remedies, 1938, p. 177).—The product is marketed in the form of tablets, 5 grains and 7½ grains. The Upjohn Company, Kalamazoo, Mich.

Ephedrine Sulfate-Merrell.—A brand of ephedrine sulfate-U. S. P. (New and Nonofficial Remedies, 1938, p. 228). It is marketed in the form of ampule solution ephedrine sulfate-Merrell, 0.05 Gm. (¾ grain), 1 cc. Wm. S. Merrell Co., Cincinnati, Ohio.

Ampule Solution Mercury Succinimide-Merrell, 0.01 (1/6 grain), 1 cc.—Each ampule contains mercuric succinimide (New and Nonofficial Remedies, 1938, p. 299), 0.01

Gm. (1/6 grain), 1 cc. Wm. S. Merrell Co., Cincinnati, Ohio.

Nicotinic Acid-Merck.—A brand of nicotinic acid-N. N. R. (*The Journal*, July 2, 1938, p. 27.) Merck & Co., Rahway, N. J.

Solution Liver Extract Purified-Lilly.—A sterile aqueous solution of liver extract purified preserved with 0.5 per cent phenol, containing 15 U. S. P. units per cubic centimeter. Solution liver extract purified-Lilly is proposed for intramuscular injection in the treatment of pernicious anemia. It is marketed in packages of three 1 cc. rubber-stoppered ampules. Eli Lilly & Co., Indianapolis, Ind. (J. A. M. A., April 22, 1939, p. 1591.)

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Liebel-Flarsheim General Body Quartz Lamp and Orificial Ultraviolet Generator.—These lamps are of the so-called "cold" type of mercury glow quartz ultraviolet generators. They are low pressure, low temperature burners. One burner is intended for general body irradiation, the other a quartz tube for orificial application. The Liebel-Flarsheim Company, Cincinnati, Ohio.

Westinghouse Short Wave Endotherm, Model 400.—This unit is recommended for medical and minor surgical purposes. Pad, cuff and cable electrodes and felt spacers are part of the standard equipment. A treatment drum with floor stand is available. Surgical accessories may be procured for minor surgical procedures commonly employed in office practice. The instrument panel has two separate controls, one for pad, cuff and surgical procedures and one for the coil technic. There are six patient outlets, a power output meter and main switch to operate tubes, and forced draft ventilating fan. The firm submitted tests performed by a qualified investigator to substantiate heating claims made for the unit. The unit was tried out clinically by a reliable investigator, who reported that it operated satisfactorily. Westinghouse X-Ray Company, Inc., Long Island City, N. Y. (J. A. M. A., April 1, 1939, p. 1255.)

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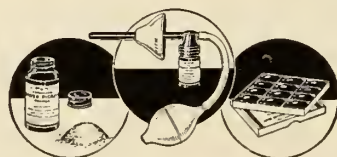
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Miscellany

CHILD'S DRAWINGS MAY GUIDE TREATMENT OF HIS MENTAL ILLS

REVELATION OF SUBCONSCIOUS LIFE PROVIDES BASIS FOR BETTER UNDERSTANDING OF PSYCHIC DISTURBANCES

By revealing his fantasies and subconscious life through his drawings, a child may provide the psychiatrist with a guide for treating emotional and behavior disturbances, Ellen P. O'Bryan, New York, points out in the May issue of *Hygeia, The Health Magazine*.

This is one of the many uses of art as an aid to medical science which recent experiments of the WPA Federal Art project have brought out.

The project conducted art classes in a children's psychiatric ward of a New York hospital. A study of the work produced in these classes suggested that children's art work might have a definite value for psychotherapy.

In this ward, according to Miss O'Bryan, "stress is placed on the specific value of art in its relation to the treatment of emotional

and behavior disturbances in the children and an approach to its interpretation. Graphic art becomes a means of establishing contact with children who are not spontaneously expressive and of obtaining insight into the child's unconscious life."

By drawing the same simple forms many times, mentally defective children probably give considerable satisfaction to their impulses for patterned activity. Their experimentation with such simple patterns may represent the beginning of constructively planned activity.

The experiments have also shown the value of art in medicine when the patient is a spectator rather than a creator. It may be planned to soothe the patient, to amuse him or to produce specific psychologic reactions.

In many hospitals a traveling exhibit of paintings is hung in the rooms of the shut-in patients. A picture hangs in one room for a week or so, and then before the patient can tire of it, another is substituted which has meanwhile been hung in another room. After a set of pictures has been circulated it is exchanged with one from another hospital.

In one tuberculosis hospital where such an exhibit was used, it was found that the patients, most of whom were from rural communities, were soothed by farm scenes, while they somewhat resented pictures of city life and the more intense works of art. Therefore, most of the pictures chosen were simple, homey pictures.

An example of art especially planned to produce a definite psychologic effect is a mural showing handicapped children at work and play with normal children, constructed in a ward for handicapped boys. "The obvious purpose is to make the little patients feel included in the world of normal, healthy, happy children," the author comments. "In every instance the artist was careful to depict handicapped children in activities in which it was possible for them to participate."

The mental age of children entering psychopathic wards is sometimes rated by the completeness of their drawing of the human form, Miss O'Bryan observes.

Public health education is still another field in which art can benefit medicine. "Through the artist," the author says, "physicians and health associations can present their message more graphically, it is believed by authorities. Educating the public in matters of health is best effected through the process of visual teaching. In this method drama is the essential element.

"While valuable in many respects, the conventional types of mediums, such as graphs and statistical charts, do not measure up to the results obtainable by forceful dramatization of health problems by a competent artist. It was found that the best type of display for this purpose is the three-dimensional stage model constructed by the WPA Federal Art project and shown with WPA health posters and WPA hospital murals during a recent American Public Health Association convention."

NEW ZEALAND MEDICAL EXPERTS FIND "CANCER CURES" ILLUSORY

The conclusions of a committee of qualified medical experts in New Zealand on their investigation of the "cancer cures" promoted by William F. Koch and Norman Baker, as reported in the *British Medical Journal*, are summarized in an editorial in *The Journal of the American Medical Association* for April 15.

The committee, which apparently conducted the investigation at the request of a Dr. Williams, reported that "Your committee considers that it is in the public interest that a statement be made that our hope of finding anything useful in the treatment recommended by Dr. Williams and his colleagues has proved illusory."

INDUCED MALARIA CAN CAUSE FALSELY POSITIVE SYPHILIS REACTION

Malaria, induced for the treatment of other diseases, can cause a falsely positive reaction to syphilis tests, S. F. Kitchen, M. D., Tallahassee, Fla., E. L. Webb, Atlanta, Ga., and W. H. Kupper, M. D., Chattahoochee, Fla., state in *The Journal of the American Medical Association* for April 15.

They made a systematic study of the Wassermann and Kahn reactions before, during and after twenty-five attacks of malaria for the treatment of nonsyphilitic patients with mental aberrations. The malaria was induced by allowing mosquitoes to bite the patients. Positive reactions were obtained in every case in which malaria developed clinically.

Seventy-two per cent of the positive reactions occurred during the third and fourth weeks following malarial inoculation. The duration of the "seropositive" (blood positive) period exceeded three weeks in 60 per cent of the cases and extended beyond four weeks in 48 per cent. Positive reactions were higher among women with malaria than men and among persons up to 35 years of age than older persons.

AMERICAN OPHTHALMOLOGICAL SOCIETY

"In June of this year the American Ophthalmological Society will celebrate its seventy-fifth anniversary," *The Journal of the American Medical Association* for April 15 says. "On June 7, 1864, this society, the first in the United States devoted exclusively to ophthalmology, was formed. That first meeting was held at the New York Eye Infirmary with eighteen in attendance from New York, Boston, Philadelphia and Poughkeepsie. The society has always stood for the highest ideals in practice of medicine. Its imminent anniversary celebration serves to emphasize the increasing maturity of American scientific medicine."



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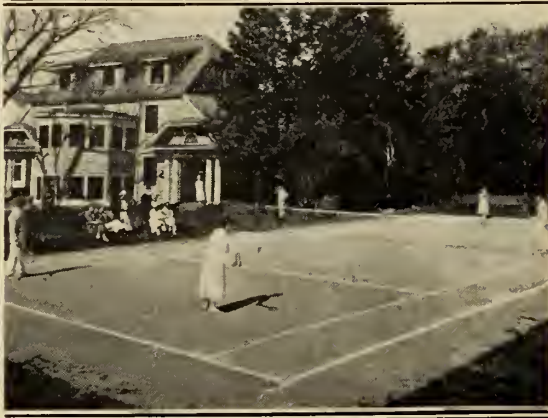
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THE COMMUNITY HOSPITAL*

By
W. H. ANDERSON, M. D.
Booneville, Miss.

Service is the Biblical scale for estimating human values, and to the man of wisdom its application brings deep satisfaction. Human values constitute our greatest wealth, and good health is a person's greatest asset. Hence, it is good human economy for every person to have adequate medical care. This constitutes a challenge to the medical profession. This profession, the favored of the earth and endowed with vision that reaches far into the future, may, with educational diplomacy along with its daily duties of healing and preventing disease, fashion a race more resistant to disease, of greater physical strength, and of larger mental calibre. The time is at hand when it is not enough simply to apply curative measures to the individual sick; we must deal with medical problems with cooperative and concerted effort. The world is now a small community. Business economy recognizes that its major concern is to develop each nation, each state and each community according to its natural resources and climate, and every individual according to his talents, in order that every resource may be utilized to the best advantage of society.

Adequate medical care for the masses at a cost at which it may be utilized is the challenge of the medical profession today. More definite provision must be made for the indigent sick also, especially in the rural communities and small towns. Education, which is an economic need—the same as food and clothing, is being carried to every child alike. It is poor economy not to carry medical care with it.

World war clouds are heavy and we are

surveying our resources of every kind. Should we stop to consider the chief source of our power in civil life—the executives of our great business establishments, the men who turn the wheels of commerce, who plead the law, who preach the Gospel and who practice medicine in the large cities, we would find that they came largely from the small town and rural community. And our Southern States are far richer in children than those of the East, North, and West. The destiny of our nation depends upon our rural people. Then, it must be very important to take care of the health of the mother and the child in the small town and rural community; in fact, the health of all. Medical care alone will not produce a superior people, but this is no argument that it should be disregarded. In many sections in the South the resources are inadequate to pay for medical and hospital care along with other necessities. We would have no paved highways if we depended upon each local community to pay its part. The large centers make their profit off of our man power, and the most just thing in the world is for some of this profit to come back to help keep up the source of supply.

There is need for a decentralization of population in our country. I believe this is especially true of the medical population. Nashville and Baltimore are medical centers and I think you will find that they have one doctor to every four hundred people, approximately. Many areas in the South have only one doctor for a population of fifteen hundred to two thousand. You may say, and rightly so, that it takes this many people for a doctor to have enough practice to make a living. But this does not mean that the source of the world's man power has sufficient medical protection. There was a time when the South did not have more than a half dozen surgeons to the state qualified to do surgery, but now eighty-five per cent of operations can be done in almost any of

*Part of a symposium on hospitalization and medical care of the indigent presented at the annual meeting of the Association, Montgomery, April 18, 1939.

our hospitals, so universal has surgical information become. This is as it should be. We can not travel far until the medical profession is able to combat disease efficiently as a unit. Although tuberculosis has now become a surgical disease, the supply of specialists for all that needs to be done is no more adequate than our sanatoria.

There was a time when the average hospital had but few cases of traumatic surgery; now they constitute a large part of the surgery. The Dean of the Medical World, Dr. Rudolph Matas, stated recently that surgery is at its peak. He declared: "With the advance of medical science it will decline steadily until it serves only to patch up the results of accidents." Twenty years ago large fibroids were as common as catfish in the Mississippi, but now they are about as scarce as great virgin pines in our forests. I make this observation to remind the practitioner, the family physician, that his day must return and that the community hospital will be quite as valuable to him as it is to the surgeon now. But at this time the machine age in which we live has brought traumatic surgery to every man's door and to every crossroads. The death rate for appendicitis still seems to be on the increase. Time is the deadly element. I think the average person with acute appendicitis is safer to be operated on by a country surgeon in a six-bed hospital within six hours of the onset than by a Mayo in the best equipped hospital in the world three days later. To reduce this heavy toll of our productive manpower, the surgeon and the hospital must be immediately available, the general practitioner must be more alert on diagnosis, and the layman must be better informed as to his part of the responsibility.

The hospital is the meeting ground between the medical profession and the laity. It should be made the center of medical education for both the doctors and the people. At present, surgery and the emergency sick demand its greatest efforts perhaps, but, in the future, preventive medicine and preventive surgery will constitute its largest service. It will help to find and utilize medical ideas that have not yet reached the general current. Ideas, like children, are born in the country, as were Crawford W. Long, Marion Sims, McDowell and Banting. Cancer thus far is the most baffling enemy of the human race. The ideas of the country doc-

tor connected with the community hospital, which should be affiliated more or less with the larger hospital teaching centers, may find an outlet into the river of current medical thought and thus materially help to solve this problem. He observes the patient day by day for a number of years, and knows him in all of his relations and activities of life.

Just what constitutes a community hospital, how it is to be obtained and where located are pertinent questions. Personally, I think there should certainly be one within twenty-five miles of every person, generally speaking. In the South, the county center offers a very good location. With the people becoming more hospital minded, a county of twenty-five thousand population will very well support a fifty-bed hospital of the type I have in mind. If the county builds courthouses for lawyers and schoolhouses for teachers, it is reasonable to expect it to build hospitals for doctors. I would not take any of the glory from the unselfish doctor who has put his life earnings into a hospital in order to render better service to his clientele. The private hospital has more personality as a rule, but there is danger that all the surgery will be forced to the owner of the hospital. This should not be. Neither should a kinsfolk trust be allowed to act in the same way. Every person has a sacred right to select the doctor he wishes and this right should not be interfered with by a sway of power. The one-surgeon hospital may give excellent service for a while, but the small town may suddenly wake up to find this service discontinued because it is not self-perpetuating. The easy and economical way is to have a nurse assistant, but no hospital should be too small to have one or two younger men in training to add permanency to medical and surgical care for the community.

I think a laudable set-up for a county is a hospital built and equipped by the county, aided by philanthropy if necessary. Connected with this hospital, office space should be provided for every doctor in the county, for every dentist who desires it, and for the public health department. A common library room would make available books and journals for all the doctors. Also a library and motion-picture room where the laity, under the direction of the medical staff, could be taught the essentials of prenatal

care, child health, the symptoms of diseases, and intelligent cooperation with the family physician. A storage room should provide, in some cases, an exchange of products from the farm for hospital service. Even a few acres of land could be cultivated to good advantage by the charity kin while they wait. Under such a plan, it is obvious that the doctors of the community would have to get on speaking terms and practice cooperative medicine. The faith of the public in the profession would increase; nurses would be better trained by circulating service between the offices of each doctor. At this time one of the most urgent needs in our medical set-up is a trained nurse in every doctor's office, especially every general practitioner's. One does not find the best service at a restaurant where one person prepares, cooks, and serves the food. If the doctor is to find cancer in the early stage he must examine his patient; if he is to avoid eclampsia in his obstetrical work he must at least weigh his patient every two to four weeks; if he is to give adequate delivery service he must repair cervical and perineal lacerations at the time they happen. To give these services he needs a nurse to help him. A hospital with this set-up could train the nurse that is needed by the hundreds by the practitioners, who should constitute eighty-five per cent of our profession. This type of hospital would afford a fine place for nurses from the large hospitals of our cities to take postgraduate work and to learn the value of close, personal human touch above "case number so and so."

The office space could be provided free in compensation for the doctor's work for the indigent, or he could pay for it. Either way, the doctor would not have most of his earnings invested in a building that would lose its value when he passes on, and the plan would give a definite permanency to medical services.

The cost of the community hospital is an important item to be considered. It would not pay to construct a hospital with cheap material and inferior labor. On the other hand, thirty-five hundred dollars per hospital bed is, in my opinion, more than is necessary. Brass door knobs and tile floors do not help to heal a wound. We have too many poor people and near-indigent, and too many doctors in the small town and rural community slaving for a mere existence, to

put so much money into a building. Interns have been taught in terms of big fees in hospitals and expensive equipment until one can hardly keep a young man in the small town without a log chain. It is time to simplify the cost of hospital construction and equipment. The able surgeon, like David, can do on a little less expensive equipment. It is time to talk plainly when speaking in terms of hospitals and leave off some of the clay facials and massages. Of course, a country doctor can make calls in a Packard, but a Ford or Chevrolet usually gets him there and back.

The community hospital is of untold value, both to the surgeon and the practitioner. It enables the surgeon as well as the internist to do much work that could not be done safely and well in the home. By seeing a large part of his patients at the hospital the surgeon saves the patient money and has more profit for himself. It also affords a wonderful set-up for postgraduate instruction. It enables the practitioner to study right at home while he treats his own patients. Many postgraduate courses have been given in my state and they have been most valuable. The staff meetings of the doctors of each county afford additional medical training, each learning from the other as cases are studied. The hospital aids the doctors in dividing their work, especially surgery, obstetrics and medicine. It gives an opportunity for merit to be rewarded as patients are brought together and compared by the service they receive; at the same time, the earnest one below can more easily climb higher.

But the community hospital is of even greater service to the people than to the doctors. Grave medical cases can be treated much better and at less cost in the community hospital. A ten-mile visit each day to the home and a six-dollar-a-day nurse amount to at least twelve dollars and a half per day, whereas at the hospital oftentimes the floor nurse is sufficient, and the bill is cut in half. If the patient goes to the city and pays his way the expense is still more burdensome. This service is greatest to the middle class who want to pay but can not pay large fees. It also enables emergency work to be done at once, when it should be.

The plan outlined gives an ideal working basis for a per capita distribution of funds for the indigent sick. I feel some pride in

what Mississippi has done in this respect. The secretary of the American Hospital Association said last year in an address referring to Mississippi's set-up: "I want to take this opportunity to pay deserved tribute to the great governor of your state, and the able men and women in your state legislature, who assisted in passing this bill. From their generous hearts they have contributed more to humanity in Mississippi in a better way and at less cost than they have ever done in any single step which your legislature has ever taken."

Another able student and a conscientious research man from a distant state, after making a thorough investigation of the Mississippi hospital set-up, had the following to say:

1. It is a simple method of distribution.
2. It is much more equitable than distribution according to beds in any given district or taxes received.
3. It has resulted in the ability of small hospitals to give care to medical indigents, not alone as long as the funds lasted but throughout the year. We found a remarkably few—only three or four—throughout the whole state that did not give essentially the same care throughout the year as they gave during the time the funds were available.
4. Another result of this, it seems, has been to make the people more hospital conscious than they were a few years ago. As the understanding and more demands of people for hospital care develop, the hospitals can and will develop in like degree.
5. In view of the fact that the population of Mississippi is spread out, and there is only one large city in this state, it is hard for me to conceive of a more equitable method. This has made all sections of Mississippi feel that they are getting a square deal. There was no reaction toward this like the reaction toward charity hospitals; that is, it was practically impossible for an indigent patient from Northern Mississippi to get in a charity hospital, or so difficult for those in the Gulf Coast area to get in that they found it much wiser to go to New Orleans, and give a fake address in order to get in the charity hospital there.
6. Another advantage of this is that it in no way places any person between the doctor and his patient.

The per capita distribution of funds for the indigent sick is just and fair and right. In my state, with ninety-two hospitals, no emergency sick among the indigent need suffer for hospital care for a limited time, but herein our set-up needs some changes. Mississippi should have only one state-owned charity hospital. It should be centrally located, well equipped for radium and x-ray therapy, and provide a pathological labora-

tory and adequate care for orthopedic cases. There should be no zoning of any counties to any hospital, and every hospital that receives state aid should be an open hospital, in our opinion. If we keep our medicine and hospitals democratic, we will have a bulwark against state medicine even though national aid is secured for both patient and doctor. Under this system the real specialist with broad and thorough training, with knowledge and wisdom, would be in no less demand; also, hospital insurance would be more practical, provided each doctor could follow his patient to the hospital. In making a plea for the small community hospital I would have you know that I have no less love and no less interest in the larger. There should be cooperation and affiliation between the small and the large, the practitioner and the specialist. The nurse graduating from the small hospital should certainly take a postgraduate course in the large one, and vice versa. Every professor teaching in the large medical school would do well to intern in some community hospital for six weeks each summer.

I am making a plea for the community hospital as a means of carrying medical service to the indigent sick and to the man of moderate means, and as the unification of every effort of our great profession to render more efficient service to the public.

HOSPITALIZATION OF ALABAMA'S INDIGENT SICK*

By
A. C. JACKSON, M. D.
Jasper, Alabama

Except in Jefferson County, the subject assigned to me is practically an unknown entity in the state of Alabama. Just why our state officials have been so derelict in their duty and the citizens of our state so unconcerned about such an important matter all these years, I am unable to understand. The whole cause cannot be laid to the abject poverty of our state, since Mississippi, with a lower per capita income than ours, has a splendid hospital program for its poor people; and Arkansas, another state ranking below Alabama in per capita income, has recently made provision for hospitalization of

*Part of a symposium on hospitalization and medical care of the indigent presented at the annual meeting of the Association, Montgomery, April 18, 1939.

its indigent sick in private hospitals. Louisiana, another Southern State in the area of the economic problem number one, according to the New Dealers, has for a long time had a splendid charity hospital program and it has just recently completed one of the finest state charity hospitals in the United States. The reason why Alabama has not done anything about hospitalization of its indigent sick is that not enough influential citizens have risen to the occasion and called it to the attention of our state officials in forceful enough terms. It should be the concern of the medical profession and hospital executives of our state to assume the responsibility of bringing this important matter to the attention of our state officials in no uncertain terms, and mould public sentiment to the extent that a demand will be so strongly made that the Legislature can no longer turn a deaf ear to our appeal and then something will be done about it.

Alabama has fifty-six general private hospitals with a total bed capacity of 3,360, located in thirty-two of its counties, while there are 35 counties without hospitals. Three counties have charity hospitals with a total of 620 beds and very poor maintenance except in Jefferson County. There are six tuberculosis hospitals with a total of 391 beds, altogether very inadequate. We have three mental hospitals with a total of 5,325 beds and they are taxed to capacity at all times. Of the U. S. Government Army, Marine and Veterans' hospitals, there are five units with total beds of 2,161. These figures give you some idea of the hospital facilities in our state, but, compared to the country as a whole, they are miserably inadequate. Within reach of one-third of our population, i. e., 46 million people, there are five general hospital beds per one thousand population, while in twenty-five per cent of our states there are 3.1 beds per one thousand population and the general average for the country as a whole is 2.7 beds per one thousand population. In contrast, we have in this state 1.2 general hospital beds per one thousand population, being less than half the general average for the country as a whole. Worse still is the fact that thirty-three per cent of our already existing hospital beds are lying idle because the citizens are too poor to pay hospital bills. According to the report of President Roosevelt's Technical Committee on Medical Care, there are forty million medically indigent citizens

in the United States, and if this be true there are nine hundred and thirty-three thousand people in Alabama who are unable to pay for hospitalization.

How are our hospitals supported? The non-profit, or voluntary hospital gets seventy per cent of its support by the collection of fees directly from its patients, six per cent from endowments and six per cent in the form of private gifts, but there are no endowed hospitals in Alabama. Our hospitals are mostly proprietary and ninety per cent of their support must come from patients' fees. "Thus, one may observe that most of the free and part-pay service of hospitals must be accomplished by passing the costs on to patients who, through payment of overcharges, create the necessary reserve." In other words, whatever charity service that is offered in Alabama's hospitals must be at the expense of those patients who are able to pay hospital bills. Then, if you expect more reasonable hospital bills for those who are going to pay their way, we must have a government subsidy to pay the bills of the medically indigent.

If you have read the Wagner Bill (S. 1620) introduced in the U. S. Senate on February 28th, 1939, you will note that, in every provision where federal money is proposed to be appropriated, there is also a provision that this money must be matched in some way by state money. So, even if this bill is passed, which is not likely, it will do no good to shake the "plum tree" in Washington if we do not shake a few of the same species of trees in Montgomery. In title XII—Grants to States for Hospitals and Health Centers—of this bill, there is a proposed grant of one hundred fifty-eight million dollars to be used over a period of three years for the construction of general, mental and tuberculosis hospitals in sparsely settled areas of the different states when properly matched by state funds, but in the maintenance clause there is provision for \$300.00 per bed for the first year, \$200.00 per bed the second year, \$100.00 per bed for the third year, and nothing from then on. What is to become of those hospitals after the third year? To my mind, maintenance of hospital beds is far more important than the construction of new ones when some of those we already have are lying idle.

What can be done about this problem in Alabama? Our state income is already so well ear-marked that we cannot construct

charity hospitals and maintain them. But an appropriation of twenty-five cents per capita could in some way be made to subsidize the one thousand vacant private hospital beds in the state for our nine hundred thousand medically indigent. Pennsylvania has been doing this successfully for a number of years, in addition to supporting several charity hospitals in the state. Mississippi four years ago adopted this plan, in addition to maintaining five charity hospitals in the state; and a quotation from Dr. W. W. Crawford of Hattiesburg gives you some idea of the success of their plan. "I have heard nothing but favorable comment on the plan and believe its adoption in your state should meet with the universal approval of the trinity of the population in the groups who are interested—the patient, the hospital, and the practitioners." Arkansas adopted a similar plan two years ago.

The advantages of the plan are that your hospital bed is within close proximity to the charity patient, free choice of hospital by the patient, improvement of the entire hospital service of the state because of better financial support, improved medical and surgical service in the small hospitals of the state because of additional clinical material being available, and, finally, the most economical solution of a problem that belongs to the state as a whole. The cost would be on the average of \$3.50 per patient day when the actual cost to the hospital is \$4.00 per day. The hospitals are not altogether selfish in this matter because I know many of you men in general practice would be glad of the opportunity to refer all of your indigent patients who develop a gangrenous appendix, intestinal obstruction, eclampsia and other serious illnesses to a hospital and have their bills paid by the state. It would relieve you of a great burden of worry and expense while the doctors serving on the hospital staff would gladly do this work when these patients are placed alongside their private patients. The hospitals are in business and pay their taxes and have hospital service for sale, so why would it be wrong to use the tax money to purchase this service for its indigent sick when the state's money is used every day for the purchase of commodities from stores and factories? In other words, hospital service is our stock in trade.

This same question was brought to the floor of this Association in Mobile last year in the form of a resolution but no action was

taken except to refer it to the Board of Censors. I hope you will consider it seriously this year and endorse it and give your collective and individual support to the extent that something will be done about its solution. When this is done, much of the criticism directed at the medical profession of Alabama, about allowing people to die for lack of medical attention in our state, will be silenced.

HOSPITAL SERVICE CORPORATION OF ALABAMA*

By
FRENCH H. CRADDOCK, M. D.
Sylacauga, Ala.

The question of hospitalization has become more and more acute in the past few years. Due to economic conditions and the suddenness of the need, it has always been a serious problem but it is now too frequently a choice of life or death against the question of money. All hospitals are vitally interested in anything that improves the type of care rendered patients; and all doctors are equally anxious that their patients have the best of care. Group hospitalization seems to be meeting the need of both situations. Various plans of group hospitalization have been tried out, beginning with the pioneer organization of a single hospital in Texas about 1929. These organizations have been growing by leaps and bounds in number and in membership. Like the sign in Arkansas: "We are here to stay." There is a story told of a certain town in Arkansas that wanted to run the highway through the cemetery. The citizens said: "That's all right but we shall certainly have to fix up something to go over the gateway for people to read as they come through." One man suggested, "Welcome." That would be suitable for the town but not for the cemetery. Another fellow recommended "Rest in peace," but they thought that, while that would be all right for the cemetery, it would not do for the town. They finally agreed on "We are here to stay," and that suited both. It certainly looks like group hospitalization is here to remain for all time.

Reading the handwriting on the wall, and desiring for Alabama the best service avail-

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able, the question of group hospitalization was raised a few years ago. Those interested in this matter arrived at certain definite conclusions in the very beginning of the discussion; namely, that only a plan on a non-profit basis would be acceptable; that it must be economically sound and ethical in character; give a choice of hospital and doctor to the member; and meet standards outlined by the American Hospital Association—a plan which would benefit people, hospitals and doctors.

Existing plans were studied; hospital executives were sent, at their own expense, to Memphis, Dallas, Ft. Worth and New Orleans for personal investigation of schemes then in use; and a representative of Associated Hospitals, Inc., of New York, was brought to the state for two weeks to assist in the final plans and to open the Alabama office in Birmingham. It will be seen that hospitals not only promoted this service plan but were responsible for the enabling act passed by the 1935 Legislature. Moreover, they provided the money necessary for deposit with the State Treasurer, and the capital necessary to organize and inaugurate group hospitalization in Alabama.

In the state there are forty-three (43) hospitals affiliated with Hospital Service Corporation, the name under which the Alabama plan is incorporated. Since the law provides that each affiliated hospital shall be entitled to a representative on the Board of Trustees, the Board is composed of forty-three members. The officers are selected from the Board of Trustees, thus putting the entire burden of success or failure on those hospitals signing the inter-hospital contract. This contract is simply an additional safeguard to protect the members of the Corporation and has never been called into use, since all obligations have been met promptly. The manager reports that the income for the second calendar year's operation was \$281,877.06 and he believes the current year's income will exceed a half million dollars. This will be used to pay hospital bills for more than 8,000 members. It is confidently estimated that by the close of 1939 there will be in excess of 80,000 members in Hospital Service Corporation of Alabama.

These figures show that the people want this protection for themselves and their families; that the small monthly dues (2c or 3c a day) enables everyone, even those in the

lower income brackets, to provide the assurance of hospital care in event of its need; that in interesting 80,000 citizens of Alabama it is necessary for the thirty-odd sales representatives of Hospital Service Corporation to contact many more thousands of Alabama citizens and talk hospital care to them, thus educating and making hospital-minded a large portion of the population of the state. The doctors are finding their patients more willing to enter the hospital for treatment, particularly those who know their hospital bill is already paid.

This service has proven of great worth to the hospitals, not so much because of the more than 8,500 bills already paid but because of the publicity and advertising the representatives of the Corporation have given the hospitals in their solicitation of members. It is most probable that the hospitals of Alabama experienced in 1938 the best year in the past decade.

The law under which Hospital Service Corporation is chartered states that there shall be two approving agencies for a hospital desiring affiliation with the Corporation. These two agencies, the Alabama Hospital Association and the Board of Censors of the State Medical Association, have established minimum requirements for hospitals affiliating. In order to meet these requirements many hospitals have improved their facilities. Thus the movement has made for better hospitals, and all affiliated hospitals, due to added patronage, have greatly improved their equipment.

A definite promise was made the doctors of Alabama, when the Corporation was being formed, that there would be no encroachment upon the services to be rendered by the medical profession—that the member should have free choice of doctor and hospital, without any influence or suggestion from anyone connected with Hospital Service Corporation. This promise has been faithfully adhered to. The contract explicitly excludes administration of anesthesia, x-rays, and laboratory services that are not routine. Thus far we have had no complaints from the profession that the service has usurped any of its prerogatives, or deprived it of fees. Instead many physicians have said that the service has been a decided help to them in relieving their patients of big hospital bills.

When a doctor finds that one of his pa-

tients is a member of Hospital Service Corporation, he does not hesitate to advise hospitalization. And, be it said to the credit of the medical profession, the doctors have not imposed on the Corporation by sending patients when there was no need for hospitalization, just because the person happened to be a member. Further, doctors are cooperating by discharging patients when they are ready to go home.

The subscriber's contract provides that he cannot enter the hospital except at the direction of his physician. The doctor should communicate with the hospital and have a bed reserved so that when the member-patient enters, he deposits his identification card, and it is unnecessary to mention money or bills. Evidently doctors like this feature since hundreds of them are now members and pay their dues regularly.

There are approximately 3,000,000 members of group hospital plans in the United States and members are being added at the rate of a million a year. Those groups, approved by the American Hospital Association, are all on a non-profit basis with standard financial requirements. Reciprocal arrangements have been made whereby a member of the Alabama group, moving into another state, will be accepted in other approved groups and those from other groups moving into Alabama will be accepted by Hospital Service Corporation.

Approved hospital service plans are not insurance schemes. Hospital Service Corporation is not amenable to any insurance laws of Alabama, but was chartered under a special act of the Legislature. It pays its members no monies, but pays the hospital for service rendered. There are no stockholders, no dividends, and no profits to anyone. The President, the Vice-President, the Secretary, and the Treasurer serve without pay. The Executive Committee meets monthly and the members receive no compensation. The law provides that no money may be paid members. If more money is collected than is necessary for hospital bills and administrative expense, it must be disbursed by increasing the benefits to members or by reducing dues paid by members. Hospital Service Corporation of Alabama is in truth a non-profit organization, purely cooperative, and rendering a real community service to the citizens of Alabama. Apparently it is here to stay.

MEDICAL CARE OF COFFEE COUNTY FARM SECURITY ADMINISTRATION CLIENTS*

By

E. L. GIBSON, M. D.
Enterprise, Ala.

After listening to the newer methods of financing hospital and medical care, one is compelled to admit that there is an economic problem in medicine which needs a great deal of study—by the physicians themselves, and not by the laity.

In a study of conditions as they exist in Coffee County, I am reminded of a story told by one of the most popular after-dinner speakers of his day, James J. Walker of New York. He stated: "George Washington was first in war, first in peace, and first in the hearts of his countrymen—but he married a widow."

Unlike the great President, Coffee County is accustomed to being last in most things; but it was first in the fat-stock show recently held in your city.

Our county is not last in medical skill or ability. Naturally, I would say that; but, to be frank with you, Coffee County is endowed with average medical skill and knowledge.

The county has a large percentage of farm tenancy—about seventy-four per cent. After the financial panic of the early thirties, the rehabilitation of these farm tenants was quite a serious problem. The U. S. Department of Agriculture organized the Farm Security Administration for the purpose of assisting farmers of the entire nation who were in dire circumstances.

As it was realized that these people needed rehabilitating physically, as well as financially, some plan was sought whereby medical and hospital care might be provided for them.

However, it was not until last year that contract practice of this type was made ethical in Alabama. At that time this Association in regular meeting amended one of its ordinances in such way as to render ethical contractual relations between governmental agencies and county medical societies for

*Part of a symposium on hospitalization and medical care of the indigent presented at the annual meeting of the Association, Montgomery, April 18, 1939.

the medical care of certain groups of the population.

Even before the change in the ordinance, in fact in the late summer of 1937, a medical representative of the Farm Security Administration held a number of conferences with the doctors of the county, especially the officers of the County Medical Society, regarding a set-up whereby the clients of the Farm Security Administration could receive medical and hospital care for a nominal annual charge. After considerable correspondence and consultation with the authorities of the Farm Security Administration, the County Medical Society agreed to do the practice for these farmers on a minimum fee basis, with the understanding that the farmers should have free choice of physician among the members of the County Medical Society.

An organization was set up for the farmers and their families, known as the Coffee County Health Association. The budget for each family included a loan of from eighteen to thirty dollars, depending on the size of the family. This money was to be placed in a common fund, under a bonded treasurer. The organization stipulated that not more than five per cent of the fund could be spent for administrative expenses, and that the remainder had to be used for the payment of medical and hospital bills. It was further stated that the Board of Censors of the Coffee County Medical Society should check and approve all bills for the purpose of determining whether or not the fee schedule was being adhered to, and to exercise their judicative powers when any differences arose between the Coffee County Health Association and the doctors.

After the deduction of five per cent for administrative expenses, one-third of the remainder was set aside for hospital care, and the other two-thirds for medical care. These funds were then divided into twelve equal parts in order that the bills might be rendered monthly and some money be available throughout the year. The doctors agreed to discount the minimum fees twenty-five per cent. If the total of the monthly bills rendered amounted to more than the monthly allotment, the money was to be prorated according to the amount available.

This scheme is nothing more nor less than a prepayment medical plan supervised by the Coffee County Medical Society. For the

year 1938, there were 307 families with 1,653 persons. There was paid into the treasury \$8,334. Against this fund, there were bills rendered in the amount of \$9,868.78. This left a balance of unpaid bills of \$1,875.41, which the doctors had to charge off to charity. Nine hundred eighteen (918) visits were made to the homes of members. One thousand seven hundred seventeen (1,717) visits were made to the offices of doctors. During the year, 913 received medical services and seventy-eight received hospital treatment. A few of the doctors during 1938 received more than a thousand dollars from their practice among these people. Last year, we did not sign contracts but did the work by agreement.

In 1939, there will be 570 families with approximately 2,900 persons. The amount of money available for the fund this year is around \$15,000. With the exception of one, all of the doctors of the County Medical Society have signed contracts to do the practice for these people on the same basis as last year.

To state the set-up in its simplest form, it is contract practice entered into by the County Medical Society and the Farm Security Administration. All of you have some knowledge, and some of you have had considerable experience with contract practice. If we are frank about it, we will admit that there are numerous faults in this type of practice. Too, we must agree that the system of practice set up by some of the large corporations of this country has been successful. If that be true, why can't each County Medical Society of this state set up a plan whereby the low income group of farmers and laborers can receive medical and hospital care on a prepayment basis?

George Bernard Shaw said that, "Every profession is a conspiracy against the laity." Another writer states that two of the professions, law and medicine, are successful in their conspiracy—they have the laity pretty well under their thumbs.

The increasing number of articles on socialized or state medicine, and others rather critical of the medical profession, that are appearing in various magazines and newspapers is sufficient testimony that the medical profession has no control over the press. If it has ever had such control over the press or laity, it must have lost it.

It is my personal opinion that the majori-

ty of the doctors are honest; and, if they are, they can make a success of the prepayment medical and hospital care plan. There are those of our profession who are unalterably opposed to any such scheme as this who are sincere in their convictions. Do they offer us anything more constructive and according to the present-day method of financing, which is installment paying for everything? Those men hold up their hands in holy horror and decry socialized or state medicine when plans of this sort are mentioned, but never submit any plan which would lift the profession out of the economic rut in which it has found itself.

"The world in which we live today is one in which 'The old order changeth greatly' and man's biggest problem is one of mental adjustment.

"In Plutarch's writings is an account of how Alexander the Great, while a mere youth, mastered Bucephalus, the horse which bore him in many of his greatest battles.

"The animal, a highly prized gift to Alexander's father, had proved so intractable that the King had ordered that he be led away. Perceiving that Bucephalus' behavior was due to fear of his own shadow, Alexander took hold of his bridle and turned his head toward the sun. By stroking him gently, he was able to quiet him, and finally to mount and ride him easily."

Many of us face with fear the fact that the old order is changing. We, as a profession, are learning that the old methods of financing our practice are inadequate and threaten to become obsolete. Like Bucephalus, we shy away from imaginary dangers; but we need have no fear of so-called state or socialized medicine so long as we have men with foresight, unprejudiced, fearless in the defense of their principles, and possessing the outstanding qualities of leadership exhibited by the officers and committees of this Association. As long as we have men of their caliber to guide this Association we may, with confidence, face the future.

Tubal Pregnancy—There is probably no more dramatic incident in the life of a physician than that of a textbook type of ruptured tubal pregnancy. This condition, with its typical history of a missed menstrual period, sharp lancinating pain in the lower part of the abdomen followed by dizziness, weakness and faintness, shallow respiration, soreness in the abdomen, and bleeding from the vagina, represents only a small per cent of all the cases of tubal pregnancy.—*Lowry, Texas State J. Med., May 1939.*

WILCOX COUNTY AND GEES BEND PLANS OF MEDICAL CARE*

By
J. PAUL JONES, M. D.
Camden, Alabama

Wilcox is a rural county that twenty-five years ago had a population of 33,810 and thirty-seven physicians. Today it has a population of 24,880 and twelve physicians, nine of whom have been in practice over thirty years, and two over twenty years. It has no hospitals and no drug stores. The health department consists of a health officer and one nurse.

Approximately one-third of the population is at present on state and federal relief rolls and the local welfare and Farm Security Administration officials tell me that at least another one-third are qualified and would be on their rolls but for the lack of money or trained personnel to care for them.

The Department of Public Welfare in Wilcox County has on its rolls:

Old age assistance	282
Mental and physically handicapped	13
Blind	11
Aid to dependent children	22
Temporary aid	1
Civilian Conservation Corps	90
Women on W. P. A.†	101
Men on W. P. A.†	247
National Youth Administration†	350
Total	1,117

The Farm Security Administration has approximately ninety families on the Gees Bend Homestead and between 900 and 1,000 families on its rolls in the balance of the county. These families will average over seven to a family in Gees Bend and five to a family in the balance of the county.

The total number of individuals in Wilcox County dependent on state and federal pay rolls is approximately as follows:

Old age, blind, dependent children, handicapped	329
Civilian Conservation Corps, 90 families with three to family	270
Gees Bend Homestead, 90 families with seven to family	630
Farm Security in balance of county, 900 families with five to family	4,500

*Concluding part of a symposium on hospitalization and medical care of the indigent presented at the annual meeting of the Association, Montgomery, April 18, 1939.

†As a rule, only one in a family is assisted.

W. P. A.—348 families with 3 to family	1,044
N. Y. A.—350 families with 3 to family	1,050
Total	†7,814

The local Department of Public Welfare has no appropriation and makes no effort to assist in the medical care of the 2,700 dependent individuals on its pay rolls. The county has abolished its poor farm with its partial medical care to inmates, and has not substituted any method of caring for them. At present the physicians of the county are giving Department of Public Welfare clients what medical care they receive, usually without recompense.

The problems of medical care presented in the Gees Bend Homestead were the first to receive serious consideration. This is entirely a Negro community, isolated by the Alabama river and poor transportation to nearby communities, impoverished by years of poor crops, indolence, ignorance and neglect. Medical care was usually of emergency nature, consisting mainly of emergency obstetrics, malaria and minor surgery. On account of its isolation, syphilis and contagious diseases are not prevalent, syphilis being the exception rather than the rule. Prior to 1937, except for immunizations against smallpox and diphtheria, there had been no health work done in the community.

In March 1938, Mr. W. A. Cammack, Manager of the Gees Bend Homesteaders, requested Dr. R. E. Dixon of Alberta, Alabama, and me to furnish professional care and drugs to the homesteaders for a specified sum yearly. As we were the only doctors who practiced on the Homestead, and being already heavily loaded with the accounts of the homesteaders, and seeing no other chance of getting paid, the proposal was accepted, provided the Wilcox County Medical Society and the State Medical Association ratified the agreement. This was done at regular meetings in Camden and in Mobile. The agreement made in April 1938 dated back to October 1, 1937 to cover services already rendered under a tentative agreement with the manager to pay in some way.

In the agreement each family selected a doctor for the year and paid to him the sum

†The local Department of Public Welfare and the Farm Security Administration assure me that these figures are as nearly accurate as can be determined without a detailed check of their rolls.

of \$15.00. Each doctor agreed to furnish services to his clients only, and to hold a weekly clinic on the Homestead for all residents in need of service.

Usual fee bill charges for services rendered from October 1, 1937 to October 1, 1938 would have been as follows:

242 office calls at \$1.00 each	\$242.00
328 clinic calls at \$1.00 each	328.00
106 mileage visits, examinations and medicine at \$8.50 each	901.00
10 surgical cases at \$5.00 each	50.00
3 fracture cases at \$15.00 each	45.00
4 abnormal obstetric cases at \$15.00 each ..	60.00
5 x-rays at \$3.00 each	15.00
51 ferriage trips at \$.50 each	25.50
Drugs at average cost of 60c a call, dressings, splints, etc.	524.00
	<hr/> \$2,190.50

For the \$2,190.50 we received \$1,305.00, a return of 60% on services rendered.

We began regular clinic visits at weekly intervals to the Homestead in June 1938, after the clinic building was furnished, when we saw all clients, made prenatal and general examinations, furnished drugs and made any visits on the Homestead that were advised by the resident nurse (colored). Services rendered from the time the clinic opened to March 15, 1939, or 9½ months, at usual fee bill charges would have been as follows:

136 office calls at \$1.00 each	\$136.00
980 clinic calls at \$1.00 each	980.00
73 mileage visits at \$8.50 each	620.50
10 surgical cases at \$5.00 each	50.00
6 obstetric cases at \$15.00 each	90.00
3 x-rays at \$3.00 each	9.00
15 ferriage trips at \$0.50 each	7.50
Drugs furnished	528.00
Total	<hr/> \$2,421.00

For these services we will receive around \$1,185.00, a return of less than 50%.

In 1937-38, in Gees Bend, there were 621 individuals in the medical cooperative, and about 48 individuals who were not included for various reasons but who received medical care at the clinic mostly free. We furnished in 1937-1938, per individual in the medical cooperative, professional services and drugs at a cost of \$3.54 a year, or 29.5 cents a month, and received in pay \$2.10 a year or 17.5 cents a month.

For the year 1938-1939, using the nine and one-half months already served as a basis for calculation, we expect to furnish, per individual, professional services and drugs at a

cost of \$5.22 a year, or 43.5 cents a month, and to receive in pay \$2.74 a year or 22.5 cents a month.

We have been informed that the Gees Bend medical care costs are higher than on any other project in the state; that we only furnish emergency obstetric services, while other medical cooperatives receive all obstetric services; and that the local nurse gives all typhoid and diphtheria inoculations, a duty of the health department. If, as it is contended by a representative of the Farm Security Administration in Montgomery, we should furnish all obstetric services, there being an average over a period of six years of 37 births a year in Gees Bend; if we charged at the regular mileage and night or day visit, and the minimum of \$15.00 for each obstetric case, we would render, in 1938-1939, services valued at \$3,917.50 as follows:

12 months services at an average of	
\$254.00 per month	\$3,048.00
37 obstetric cases at \$15.00 each	555.00
37 mileage and day or night visits at	
\$8.50 each	314.50
Total	\$3,917.50

For these services we would receive about \$1585.00. This means a return of some 40% at usual fee bill charges.

After working with the homesteaders in Gees Bend for over a year and a half, I find they feel that having paid for the doctor and medicine they wanted both. For that reason the clinic patients as a rule had very few serious disorders, but the number attending clinics interferes with any attempt to carry out a program of health protection, or proper care of those needing it. As all home visits came through the nurse, they were usually necessary. A large number of the children attending clinics need tonsil and adenoid operations, and a large percentage of the women need some type of surgery for "female disorders." All seem to need dental care badly. Prenatal care, and typhoid and diphtheria toxoid inoculations are the only types of health work done.

Nearly 90% of our population live on farms and farm for a living. Years of crop failures, crop reductions, debt and one-crop ideas have impoverished them to such an extent that a majority of the tenant farmers can no longer make enough to buy the necessities of life, much less pay for medical

care. The Farm Security Administration, realizing this, is assisting about 1,000 families (one-thirtieth of all their clients in Alabama) in Wilcox County.

Recognizing this state of affairs, the physicians of Wilcox welcomed any method that would extend to these families medical care, and to the physician, aid in performing his duties, accepting the fact that some type of contract medicine or sickness insurance was inevitable if this group was to continue to have even emergency care. For four years we have been doing our best, first with the Rural Relief, then the Rural Resettlement, and now the Farm Security Administration, to formulate some plan that would at least partially solve the problem. Our doctors are widely separated, and each has his own clientele within ten to fifteen miles of his home.

After investigating as best we could all schemes in force, the physicians of Wilcox decided on the following plan, which seemed to serve the needs both of our clients and of ourselves. Such a plan retains the relationship of patient and physician, tends to overcome any tendency of padding bills, allows as much or as little medical care as is needed, and assures a known, if small, income. The lists of the clients are open to the medical profession for inspection.

RESOLUTIONS ADOPTED BY THE WILCOX COUNTY MEDICAL SOCIETY, NOVEMBER 16, 1938

In accordance with the general policies approved on January 12, 1938 by the Board of Censors of the Medical Association of the State of Alabama, relative to a plan for medical care for Farm Security Administration clients in the State of Alabama, the Wilcox County Medical Society will cooperate with and assist the Farm Security Administration in an effort to make available to its clients reasonably adequate medical services, provided the principles and procedures outlined are adhered to.

Provision 1. That the Farm Security Administration will lend to its clients participating in the proposed medical care program a specific amount or sum of money, the amount for a given family to be governed as far as possible by the estimated income of the family, its ability to pay, and the amount of medical service which will probably be needed. The following amounts shall be provided for each family participating in the medical service program: \$14.00 for each family of two, for twelve months, and \$1.00 for each additional person, not to exceed a maximum of \$22.00 for the larger families. These fees will be for the calendar year beginning January 1, 1939 and ending December 31, 1939.

Provision 2. Each family shall consist of a

father, mother and unmarried children under age, or who are in the loan plan.

Provision 3. The funds loaned to families for medical care are to be placed in a local bank in the hands of a trustee, to be appointed by the Farm Security Administration. Such trustee will pay for medical services rendered by the physicians within the limitations fixed by the resolution.

Provision 4. Ten per cent (10%) of each loan shall be deposited in a special fund and used for emergency hospital and surgical services. This sum is to be divided into twelve parts and used to pay each month's emergency hospital and surgical services on a prorata basis. Any balance at the end of the year will be included in next year's special emergency fund. If this fund is exhausted through undue demands, or accidents, the Farm Security Administration agrees to endeavor to develop some method of aiding this fund through grants, or from individual budgets.

Amendments to Provision 4.

(a) In each fracture case requiring special splints or plaster casts, the doctor attending shall be paid the sum of \$15.00 out of the special emergency fund by the trustee.

(b) In each emergency obstetric case the doctor attending shall be paid the sum of \$15.00 out of the special emergency fund.

(c) In each surgical case, handled outside of a hospital, where the case is more than minor surgery, the doctor attending shall be paid the sum of \$15.00 out of the emergency fund.

(d) Checks are to be sent by the trustee on presentation of bill showing services rendered, to whom and type of service rendered, subject to the conditions set out in Provision 4.

(e) Each midwife attending a birth in the families of these clients, on presentation of proper proof, will be paid the sum of \$3.00 out of the special emergency fund by the trustee.

(f) The maximum allowance for hospital and surgical care is to be \$50.00, this to be paid by the trustee, on presentation of bill showing name of client, name of doctor referring client and services rendered.

Provision 5. Each family is to select the physician it wishes to care for it for the year, and pay loan to the trustee. After deducting the 10% emergency fund, the trustee will deposit the balance in a medical fund. On the first of each month the trustee will send a check on this fund to the participating physicians, the amount to be determined by the number of families who choose him, multiplied by the amount of loan divided by twelve.

Provision 6. Any physician in the county may participate in the medical service program. Their names will be furnished the local supervisor, who in turn will supply the list to the clients on the Farm Security Administration. Any time a physician is dissatisfied he may withdraw, his clients selecting another physician. Any client may change physicians by giving thirty days' notice in writing to the physician and trustee, or manager of the Farm Security Administration.

Provision 7. In the event there is excessive and unwarranted demand for professional care or

drugs, the family may be dropped from the list of participating clients by the physician. Any unearned balance of his medical plan loan will revert to the trustee. The dropping from the list may be done by giving him thirty days' notice in writing, as well as the manager of the Farm Security Administration.

Provision 8. Each physician shall be supplied with a list of clients who have selected him as their physician, the name of the family, the number in the family and their names.

Provision 9. Each physician shall have the right to reject any client on his list, if in his judgment it is necessary. The client may then select another physician.

The Wilcox County Board of Censors shall be given a list of all clients participating in the plan for medical care, the name of the family, the number in the family and their names, and the physician of their choice.

Provision 10. It is understood that the medical care or services provided by this resolution shall embrace such services as would be performed by a family physician in the home of the client or in the office of the physician, including the emergency obstetrics only, and ordinary drugs dispensed by the physician. Splints, biologicals and expensive drugs are not to be furnished.

Provision 11. The physicians participating agree to furnish adequate services in so far as they are physically able, but, as in private practice, reserve the right to postpone or turn down calls in emergencies or illness.

Provision 12. In event of complaints by supervisors, clients, trustee or physicians concerning the working of this medical care plan, it shall be referred to the Wilcox County Board of Censors.

In event the recommendation of the Board of Censors is not satisfactory, it may be appealed to the State Board of Censors.

Adopted at a regular meeting of the Wilcox County Medical Society, February 7, 1939.

P. E. Godbold, President,
Wilcox County Medical Society.
E. L. McIntosh, Secretary,
Wilcox County Medical Society.

We, the undersigned have read the above resolutions and agree to participate in the medical care program for the year 1939.

S. S. Boykin, M. D.
Walter Fudge, M. D.
E. G. Burson, M. D.
R. E. Dixon, M. D.
John Thompson, M. D.
P. E. Godbold, M. D.
K. A. Mayer, M. D.
Paul Jones, M. D.
W. W. Moore, M. D.

Amendment 1. That clients living near the county line may select a doctor in an adjoining county if the doctor agrees to abide by our agreement, and that there be reciprocity in this respect by the medical societies and Farm Security Administration in other counties.

Amendment 2. The cost of bonding the trustee, and necessary stenographic and supply expenses

are to be paid out of the total medical care program, and deducted equally from each participating doctor's account.

Finally, it may be of interest to some to incorporate, also, the agreement bearing on the Gees Bend project.

AGREEMENT BETWEEN DRS. R. E. DIXON OF ALBERTA, ALABAMA, AND PAUL JONES OF CAMDEN, ALABAMA, AND MR. W. A. CAMMACK, MANAGER OF THE GEES BEND HOMESTEADERS FOR MEDICAL CARE OF THE GEES BEND HOMESTEADERS FOR THE YEAR OCTOBER 1, 1938 TO SEPTEMBER 30, 1939.

In accordance with the general policies approved January 12, 1938 by the Board of Censors of the Medical Association of the State of Alabama, relative to a plan for medical care for Farm Security Administration clients in the State of Alabama, the Wilcox County Medical Society will cooperate with and assist the Farm Security Administration in an effort to make available to its clients reasonably adequate medical services provided the principles and procedures outlined are adhered to.

The Farm Security Administration agrees to loan its clients in Gees Bend participating in the medical plan a specified sum of money. The following amounts shall be provided: \$15.00 for twelve months for a family of two, and the sum of \$1.00 additional for each member of the family, the maximum sum not to exceed \$22.00.

In addition the Farm Security Administration will make an additional loan of \$2.00 to each family to be placed in a special fund and used for emergency hospitalization and surgery. This sum is to be split into twelve parts for each month of the year and only one-twelfth is to be used in any one month. If not used, the remainder may be used in any succeeding month.

For old age pensioners on the Homestead, the manager of the Homestead will endeavor to secure a grant of \$7.50 for each person for medical care, to be distributed as specified below for all clients.

The clients are to pay for the services enumerated below by giving their personal check, countersigned by the manager, to the physician of their choice, as soon as budget checks arrive.

The manager is to furnish the physicians a list of families selecting them as their doctor for the ensuing year. This list shall include the number and names of the members of the family.

Each family unit shall consist of the mother, father and unmarried children who are working on the Homestead, but does not include transient relatives.

Drs. Dixon and Jones agree to furnish professional services as usually rendered families in private practice and ordinary drugs, but do not agree to furnish surgery or hospital care, serums or expensive drugs or splints.

Abnormal labor cases are to be attended only when request is made by the nurse.

A weekly visit is to be made to the clinic build-

ing by one of the doctors, seeing all chronic and prenatal cases, and making any visits on the Homestead that are recommended by the nurse.

Emergency house visits are to be made when necessary and always, except in emergencies by request of the resident nurse or manager.

Each client having chosen a doctor for the year must continued to use that doctor for the year, each doctor having agreed to furnish professional care to those on his list only, except when attending the clinic.

This contract may be cancelled by either party by giving thirty days' notice and by returning monies not earned. Both doctors, having other responsible practice, agree to furnish adequate services insofar as they are able, but reserve the right to turn down or postpone calls and visits in emergencies.

Drs. Dixon and Jones agree to continue the services for the balance of the year. If either dies, or is unable to furnish his part of the services promised, then the doctor not being able to fulfill his contract agrees that he or his estate will refund the unearned balance to the doctor who fulfills his contract.

R. E. Dixon, M. D.
J. P. Jones, M. D.
W. A. Cammack, Manager,
Gees Bend Homesteaders.

CONCLUSIONS

There are so many problems and difficulties in a program of this type, that we should endeavor to weigh all angles carefully. In any plan, the type and extent of medical care should be thoroughly explained to the supervisors and clients, to prevent misunderstanding, abuse and resentment. What we understand we are to furnish, and what the clients of the Farm Security Administration think they are to receive are frequently very different.

Sickness insurance, its idea and purpose are poorly understood and appreciated. It seemingly opens to clients the opportunity to have long delayed medical needs, usually chronic, cared for. Full dental care, surgery and hospitalization should be included in any plan, but, to do so, raises the cost to a figure too high for their means.

Some method of medical care should be worked out between County Medical Societies and the Department of Public Welfare for clients on its rolls, in counties where no effort is now being made to care for them.

To avoid confusion and misunderstanding, contracts should date from time loan is made to client, usually in April or May. This gives time to make lists of clients and get money in the bank to pay bills.

Many doctors and clients live near county

lines and have clients and doctors in adjoining counties. It seems wise for medical societies and the Farm Security Administration in adjoining counties to work out some cooperative plan to care for this problem.

Health conservation work is badly needed in this class and should be added.

I wish to thank Dr. R. E. Dixon for his assistance in writing this report; Mrs. Goodwin of the Department of Public Welfare, Mr. Cammack and Mr. Posey of the Farm Security Administration, for certain facts presented in this paper and their earnest cooperation and assistance in getting our medical care problems on a working basis; and Dr. J. N. Baker for his suggestions and criticism.

REFERENCES

1. Department of Public Welfare, Camden.
2. Farm Security Administration, Camden.
3. Department of Public Welfare and Farm Security Administration, Camden.
4. Office records of Drs. R. E. Dixon and J. P. Jones.
5. Minutes of the Wilcox Medical Society.

DISCUSSION

Dr. Frank W. Pickell (Brewton)—The papers in this symposium have presented in a masterly fashion how some communities have met our most pressing medico-economic problem, that of adequate medical care of the indigent. By adequate medical care I mean more than simply bringing the patient into contact with a physician equipped with a stethoscope and a prescription pad.

In my own county, Escambia, supposed to be one of the fairly rich rural Alabama counties, from observation and from figures obtained from the local welfare authorities, I have been surprised to find that one-half or possibly two-thirds of the population is directly dependent on checks from the Federal Government for their existence and should be classed as indigents. I believe this situation exists throughout nearly all of rural Alabama.

The problem of the indigent and their medical care should be attacked systematically by the medical profession before some political opportunist apparently solves it with some high-sounding quackery. We are agreed that there is no finer investment than an investment in the prevention of disease and the care of the sick, but this can not be done gratuitously by physicians. It is too costly a burden on them. The medical needs of the indigent should be supplied out of tax funds, just as the food, clothing, and housing needs are now provided. Also, the indigent patient should be treated as an individual patient by the doctor of his own choice.

Now, what I have said sounds well but in plain terms, "What will it cost in Alabama to do all this?" I have studied and prepared a chart showing how much our facilities for medical care should be increased if we have facilities enough to care properly for the large indigent part of

our population. I can state my figures and you can figure the cost. It could be done cheaply, but such would be a distinctly inferior service. First, I should say that our present hospitals, x-ray equipment, laboratories, nurses and physicians should be used to the utmost, but we need more of all of these and I present this chart to show how much. How did I arrive at these figures? I compared Alabama with a certain Eastern State where a recent thorough study by its own State Medical Society showed there is no serious lack of medical facilities. Its problem was distribution of facilities already present. Our first problem in Alabama is to get the facilities. Adjusted to population, Alabama needs the figures in the first column in order to have facilities equal to those of that well supplied Eastern State; or, as shown in the second column, our supply of doctors must be increased 2½ times, hospital beds 3½ times, etc.

ALABAMA'S NEEDS FOR ADEQUATE MEDICAL CARE FOR ALL

	Needs	Increase Over Present
Physicians	3,550	2 1/2 times
Population per physician	minus 807	minus 2 1/2 times
Hospital beds:	total 30,450	3 1/2 times
General beds	9,850	2 1/2 times
General beds per 1000	2.7	2 1/3 times
Nervous and mental	16,436	2 2/3 times
Tuberculosis	2,640	7 1/4 times
Children's	348	8 times
Orthopedic	360	9 times
200 KV x-ray therapy units	21	4 1/2 times
Registered nurses in hospitals	3,380	6 times
Approved internships	207	6 1/2 times
Per capita wealth	\$1,900	2 1/2 times
Per capita income	\$ 303	2 2/3 times
Above figures from comparison with a rich Eastern State		

When we come down to the last two items, per capita wealth and income, we have the whole problem. If these were raised, the facilities for medical care could be supplied, could be paid for, and, probably, would automatically come. Until we do this, it is likely we shall need some federal aid. For the present, some of our medical care for the indigent will have to be makeshift and of a very low grade. Public health service and syphilis control should be considered as a minimum. Alabama can provide proper facilities and distribute them properly but only with more money. Like everything else, this is an economic problem, but we, as the medical profession of Alabama, should state the problem and point out the proper means of solution. I think the foregoing papers have been a tremendous and inspiring start in this direction.

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GLUCOSE TOLERANCE IN RHEUMATIC FEVER

"The carbohydrate metabolism has not been extensively studied in rheumatic fever, although transient or persistent diabetes has apparently been induced by attacks of this disease. In possibly related types of illness, including rheumatoid arthritis, however, several investigators have observed a decreased sugar tolerance, although there is not complete agreement on this point."

This paragraph is taken from a recent article by Schultz,¹ who wished to determine whether hyperinsulinism is demonstrable in patients with active rheumatic fever.

Schultz determined the degree of glucose tolerance in ten patients with rheumatic fever and fourteen with various febrile diseases. His summary and conclusions are "in a functional test so variable and so susceptible to the influence of many diverse factors as that of glucose tolerance it is obviously unsafe to draw conclusions from only a few observations. Since all of the known, controllable, disturbing factors were eliminated by the distribution of patients into appropriate groups, and since there was no exception in any group, the conclusion that, on the basis of glucose tolerance tests, there is no

demonstrable evidence for hyperinsulinism in patients with active rheumatic fever is probably justifiable. The results suggest, indeed, that in rheumatic as in rheumatoid arthritis, relative degrees of decreased glucose tolerance are frequently present. These observations are by no means irreconcilable with those indicating that diabetes is relatively incompatible with rheumatic fever, for it is recognized that diabetes is a much more complex state than that incident merely to hyperglycemia due to a relative deficiency in insulin secretion."

CONCLUSIONS

"1. On the basis of glucose tolerance tests, no association between rheumatic fever and hyperinsulinism is demonstrable.

"2. In the limited number of patients studied, a decrease in glucose tolerance in patients with active rheumatic fever, as compared with those suffering from other febrile diseases, was frequently observed."

The number of patients upon whom Schultz based his studies is quite small, but his work is interesting and provocative. If his observations can be confirmed by himself and others upon a much larger scale, they may prove to be of considerable value in attacking the ever-baffling problem of arthritis. So much study and research have been devoted to arthritis and so little real progress has been made that no possible avenue of approach should be overlooked.

THE ST. LOUIS SESSION OF THE AMERICAN MEDICAL ASSOCIATION

The St. Louis session of the American Medical Association marked the ninetieth milestone in the annual gatherings of this, the largest medical organization in the world, and with a registration of 7,412 in attendance out of a membership which now exceeds 112,000. Fifty-one registered from the State of Alabama. Naturally, the hotels of the host city were taxed to overflowing, but the efficient Committees on Arrangement and Hotels saw to it that all who displayed a membership badge were comfortably cared for. The magnitude of the exhibits—both scientific and commercial—was bewildering and a sojourner worming his way through this intricate maze found difficulty in locating and concentrating upon the particular things in which he was immediately concerned. This was especially true of the scientific ex-

1. Schultz, Mark P.: Glucose Tolerance in Rheumatic Fever, Public Health Reports, 54: 305 (Feb. 24) 1939.



M. S. DAVIE
President of the Association
1939-1940

hibits, carrying, as many did, practical demonstrations and descriptive films.

The annual dinner tendered on Monday evening by the host society to the House of Delegates and the officers of the Association proved both an intellectual and gastronomic treat; the former being presented in the nature of a puppet show in which were caricatured current affairs and medical officials and leaders.

The second award of the Distinguished Service Medal, which, last year was bestowed upon Dr. Rudolph Matas, of New Orleans, went to Dr. James B. Herrick, of Chicago, best known to the medical world through his outstanding contributions to the knowledge of coronary thrombosis. The two other names presented to the House of Delegates, which, by ballot, makes the final decision, were those of Dr. Chevalier Jackson, of Philadelphia, and Dr. Edward Jackson, of Denver.

A matter brought before the House, which provoked considerable discussion, was introduced by Dr. James Paullin, of Atlanta, providing for an increase of the present membership on the Council on Medical Education and Hospitals from seven to nine and also for a change in the present method of selecting its membership, which, up to the present time, has been by nomination of the President and ratification by the House. The House concurred in the increased membership and also provided for the selection of the members of this Council through recommendations coming to it from the Board of Trustees rather than from the President.

Two resolutions, both emanating from the Medical Society of the State of New York, were introduced, which, to one at all conversant with the Constitution and structure of the American Medical Association, seemed alike unnecessary and inopportune. The one requested that the House of Delegates grant a seat to a woman delegate. One should know that women are now members of the American Medical Association and that there is no constitutional inhibition to their serving in the House of Delegates; in truth, they have done so and with efficiency. The other resolution urged that membership in the American Medical Association be not denied solely on the basis of race, color or creed. The Constitution declares the Association to be "a federacy of its constituent associations," membership in which derives

solely from membership in component county or district medical societies. The Constitution does not now, nor should it ever, attempt to fix standards, other than professional, for membership in local county medical societies. Local autonomy and self-determination in this regard should never be disturbed. The House wisely rejected both of these resolutions.

Another matter to receive consideration by the House and of interest to Alabama physicians was that of the use of rented radium by doctors who did not own their own radium. This had been precipitated by the adoption, last year, at San Francisco, of the following ruling submitted by the Judicial Council in attempting to define the ethical aspects of this question:

"As a result of a rather extensive correspondence both from those favoring its use as described and those opposed, the Judicial Council is of the opinion that the prescribing and directing of its use in the case of a patient whom the prescriber has not examined or seen is an unethical medical procedure."

In committee hearings it was brought out that one or more commercially minded physicians, owning radium, had attempted to rather flagrantly capitalise on their holdings through questionable advertising and that this action had been directed at such an individual and not against the conscientious physician in practice seeking to serve the best interests of his patient. Inasmuch as a careful reading of the above paragraph shows this to be its intent, it was not felt that further action in the matter was indicated by the House.

Quite a number of other interesting reports were submitted to the House by different Committees and Councils, notably those from the Committee on Legislative Activities, by its Chairman, Dr. E. H. Cary, and that from the Committee on Medical Care, by Dr. William F. Braasch. The committee report in which the deepest concern was manifested was that submitted on Wednesday afternoon by the Special Reference Committee appointed to report on the National Health Act of 1939, now pending in the Federal Congress. This report, submitted by Dr. Walter F. Donaldson, of Pittsburgh, was adopted without a dissenting vote and is published in full in this issue of the Journal under the Association Forum.

By unanimous vote the Association hon-

oured itself by selecting as President-Elect an ex-Speaker of the House of Delegates, and a general practitioner of New York City, who has for many years rendered the Association a rare type of devoted, loyal and unselfish service—Dr. Nathan B. Van Etten.

The next place of meeting will be New York City.

Committee Contributions

Maternal and Infant Welfare

Several months ago attention was called to the uses and abuses of oxytocics. It is the opinion of our leading teachers and obstetricians, based on research studies, that the oxytocics—pituitrin and ergot preparations—hold a very definite place in the treatment of maternity patients. Pituitrin and ergot, or ergot preparations, given, *following* the expulsion of the placenta, serve as our most effective weapons in the prevention of post-

partum hemorrhage and infection. Any of these preparations, especially those of the ergot group, given *before* the placenta has been expelled may produce serious results. Ergot or any ergot preparation is absolutely contraindicated before the birth of the baby. Pituitrin or any pituitrin preparation, according to obstetric authorities, should be given in certain selected cases for the induction of labor, and only in one to two minimum doses one-half hour apart.

It has been brought to the attention of your Committee several times that certain detail men have been suggesting that their product (either pituitrin or ergot) be used to shorten labor. These suggestions have come as a bit of friendly help from the representative rather than with the approval of the firms which they represent. It behooves all physicians to remember the pharmacologic reaction of these dangerous drugs when hearing these "friendly suggestions" from these men. None of us can afford to take chances with human life.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

RESOLUTIONS AND COMMENTS FROM INTERESTED NATIONAL GROUPS ON THE PENDING NATIONAL HEALTH ACT OF 1939

Contributed by
J. N. Baker, M. D.
State Health Officer

Senate Bill 1620, commonly known as the "National Health Act of 1939," was introduced in the Senate of the United States February 28th, 1939 by Senator Robert F. Wagner of New York. Without specifically so stating, the evident purport of this legislation is an attempt to implement at least some of the recommendations made in the National Health Program.

More or less specific pronouncements regarding the suggestions and recommendations incorporated in the National Health Program have already emanated from certain national organizations deeply interested and concerned with such a National Health Program and are now matters of record.

Since the introduction of the legislation mentioned above, several of these have expressed themselves regarding the legislation itself, either through formal action taken by the organization, or through representation before committee hearings in Washington. The views held, the action taken, and particularly the objections to the legislation in its present form, of two of these national groups, each composed exclusively of medical men whose viewpoint as to the need for suitable legislation of this sort would naturally differ somewhat, viz., the American Medical Association and The Conference of State and Territorial Health Officers, are set forth below.

A careful reading of these expressions reveals that both professional groups are in agreement that the legislation in its present form is unacceptable and stands badly in need of revision at many points. If federal legislation of this nature is to come about, it is believed that these two medical groups are in accord regarding the *inclusion* of cer-

tain basic principles into such legislation, as they are in accord regarding the *exclusion* of certain other things—notably compulsory sickness insurance, which, by implication, as the bill now stands, is a possibility. For many reasons, obvious to one who carefully scrutinises the bill, the administrative mechanisms employed in the proposed legislation might well be, and should be, recast.

The premise upon which rest the expressions emanating from the House of Delegates of the American Medical Association appears to be largely that of opposition to an expanded federal program in the preventive health field, save in the face of an actual, demonstrated emergency. It might be well to recognise that there is another school of thought or philosophy of government which seeks, through wider dissemination of preventive health services, to checkmate such emergencies. The views expressed by The Conference of State and Territorial Health Officers are predicated upon the assumption that there exists a real need for such services. While there may be differences of viewpoint as to the need, there are none regarding the necessity of preserving, in any legislation drafted to supply the need, the ethical principles of American Medicine. Within the medical profession and in the House of Delegates of the American Medical Association, just as in society at large, there are those whose views lean to the one school or to the other. It may be that these views, when attempt is made at reconciliation through legislation, will be found to be incompatible; yet, the time has likely come when a sincere effort should be made.

1. REPORT OF REFERENCE COMMITTEE OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION ON THE "WAGNER HEALTH BILL," S. 1620, 76th CONGRESS, 1st SESSION, MAY 17, 1939.

The following report of the Reference Committee to the House of Delegates was adopted, May 17, 1939, without dissenting vote.

Your Reference Committee has carefully considered the Bill designated as S. 1620, "A bill to provide for the general welfare by enabling the several states to make more adequate provision for public health, prevention and control of disease, maternal and child health services, construction and maintenance of needed hospitals and health centers, care of the sick, disability insurance, and training of personnel; to amend the Social Security Act; and for other purposes."

History of Wagner Health Bill

This bill was introduced by Senator Robert F. Wagner of New York, February 28, 1939, and is

commonly referred to as the Wagner Health Bill. The bill itself provides that, if it be enacted, it may be cited as the "National Health Act of 1939." The purposes of the bill are sufficiently stated in the title, but the bill itself must be recognized as a proposed amendment to the Social Security Act of 1935. The bill is intended to make effective a national health program recommended by the Interdepartmental Committee to coordinate health and welfare activities.

The House of Delegates of the American Medical Association, at its special session in Chicago, September 16 and 17, 1938, adopted five recommendations made by a special committee that had been appointed to consider and report on the National Health Program. It is important that this fact be borne in mind, for the bill now under consideration, which was drafted long after those recommendations were adopted and at a time when they were presumably known to the proponents of this bill, does not recognize either the spirit or the text of those recommendations. Any criticism of this bill by the Association is not to be construed, therefore, as a repudiation of any of the principles adopted by the 1938 Special Session of the House of Delegates.

Analysis of the Bill

S. 1620 proposes to amend Title V of the Social Security Act—Grants to States for Maternal and Child Welfare—and Title VI—Public Health Work and Investigations—and proposes to add to the Social Security Act certain new titles: namely, Title XII—Grants to States for Hospital and Health Centers; Title XIII—Grants to States for Medical Care, and Title XIV—Grants to States for Temporary Disability Compensation.

Already some individuals and organized groups in the United States have appeared before the Senate Subcommittee which has this bill under consideration and have urged its immediate enactment. Although the stated objectives of the Wagner Health Bill are generally recognized as desirable, your committee cannot approve the methods by which these objectives are to be attained.

Repeatedly, physicians and all other qualified professional groups have recommended the coordination and consolidation of the health activities of the Federal Government. The Wagner Health Bill leaves existing and proposed preventive and curative medical services widely scattered through several federal agencies.

This bill does not in any way safeguard the continued existence of the private practitioners who have always brought to the people the benefits of scientific research and treatment.

It does not provide for the use of the thousands of vacant beds now available in hundreds of church and community general hospitals.

The Wagner Health Bill proposes an extensive program in the field of "health, diagnostic, and treatment centers, institutions and related facilities," without defining their functions.

This bill proposes to make federal aid for medical care the rule rather than the exception, since it does not specifically limit its benefits to persons unable to pay for adequate medical care.

The Wagner Health Bill does not recognize the need for suitable food, sanitary housing and the improvement of other environmental conditions necessary to the continuous prevention of disease and promotion of health.

This bill insidiously promotes the development of a complete system of tax supported governmental medical care, thus undermining and debasing present standards of medical services.

The House of Delegates in September 1938 urged compensation for the loss of wages during sickness. The Wagner Health Bill deviates from this suggestion by proposing to provide medical services in addition to compensation.

The Wagner Health Bill would authorize an enormous expansion of governmental medical services and therewith ultimately unlimited appropriations for its health program. The funds necessary would be so great as to increase still further the present burdensome general taxation.

The Wagner Health Bill provides for supreme federal control. Rules and regulations must be promulgated by the Chief of the Children's Bureau in the Department of Labor, the Surgeon General of the Public Health Service, the Federal Emergency Administrator of Public Works, and the Social Security Board. These federal agents are given authority to disapprove plans proposed by the individual states.

The House of Delegates at its September 1938 Session approved the expansion of preventive and other medical services when the need could be shown. The Wagner Health Bill prescribes no method for determining the nature and extent of the needs for which it proposes allotments of funds.

The provisions in the Wagner Health Bill that have never been considered by the House of Delegates are: the authorization of appropriations for studies, investigations and demonstrations, and the creation of federal and state advisory councils.

Conclusions

The Wagner Health Bill, as judged by the considerations that have been here presented, is inconsistent with the fundamental principles of medical care established by years of scientific professional medical experience, and in the opinion of your committee it is, therefore, contrary to the best interests of the American people.

For years the health of the people of the United States, as measured by sickness and death rates, has been better than that of most foreign countries, and this improvement has been continuous. The fortunate health conditions in the United States cannot be dissociated from the standards and methods of medical practice that have prevailed under the present system of medical practice.

No other profession and no other organization has done more for the prevention of disease, the promotion of health and the care of the sick than have the medical profession and the American Medical Association. No other groups have shown more genuine sympathetic interest in human welfare.

The contribution of the individual members of the American Medical Association to medical care

is universally regarded as monumental in total volume. The contribution of the American Medical Association, through a program of medical education and the activities of its numerous councils which safeguard medical services, give abundant proof of interest in the problems of the national health. It has given continued consideration to these problems, whereas others show concern with these proposals because of a present but, it is to be hoped, a temporary need for relief. These are the groups which request revolutionary legislative action as indispensable for the extension and further diffusion of health facilities.

In view of its record and in consideration of the responsibility which American social history and the nature of medical care have imposed on the medical profession, the American Medical Association would fail in its public trust if it neglected to express itself unmistakably and emphatically regarding any threat to the nation's health and well-being.

The American Medical Association must therefore, speaking with professional competence, oppose the Wagner Health Bill.

Recommendations

Nevertheless, recognizing the soundness of the principles stated in the recommendations adopted by the House of Delegates at its special Session in 1938, namely, the expansion of preventive medicine and public health where need can be shown, the extension of medical care for the indigent and the medically indigent where the need can be demonstrated, with local determination of needs and local control of measures to supply these needs, your committee would urge the development of a mechanism for meeting these needs within the philosophy of the American form of government and without damage to the quality of medical services.

This question, as it relates to the aid to be given by an individual state to its own counties, municipalities or other local political units, is not immediately before this Association. The answer is to be found in the individual state constitutions and state statutes. Counties, townships and municipalities are creatures of the individual states and can be molded and guided by the state for its own purposes. The individual state, itself, is not a creature of the Federal Government. The Federal Government is, as a matter of fact, a creature of the individual states.

The fundamental question is how and when a state should be given financial aid by the Federal Government out of the resources of the states as a whole, pooled in the Federal Treasury. Disasters, such as floods, dust storms, fire and epidemics have long been recognized as justifying such federal aid. No state or person has ever been heard to object to the use of funds out of the Federal Treasury for such purposes. No one has ever proposed, however, that because federal aid is extended under such conditions to a state in distress, a corresponding aid must be extended to every other state, regardless of its need. Nor has anyone ever been heard to say that federal aid to a state in distress, because of flood, dust storm, fire or epidemic, shall not be extended, unless and

until the suffering state has produced from its own treasury a stated amount of money to aid in affording the relief. The development of such bizarre thinking may be traced to those who have originated within comparatively recent years the granting of federal subsidies—sometimes referred to as “grants in aid”—to induce states to carry on intrastate activities suggested frequently in the first instance by officers and employees of the Federal Government. The use of federal subsidies to accomplish such federally determined activities has invariably involved federal control. Any state in actual need of financial aid from the Federal Government for the prevention of disease, the promotion of health and the care of the sick should be able to obtain aid in a medical emergency without stimulating every other state to seek and to accept similar aid and thus to have imposed on it the burden of federal control.

The mechanism by which this end is to be accomplished, whether through a federal agency to which any state in need of federal financial assistance can apply, or through a new agency created for this purpose or through responsible officers of existing federal agencies, must be developed by the Executive and the Congress who are charged with these duties. Such method would afford to every state an agency to which it might apply for federal assistance to enable it to care for its own people without involving every other state in the Union or the entire government in the transaction, and without disturbing permanently the American concept of democratic government.

Summary

1. The Wagner Health Bill does not recognize either the spirit or the text of the resolutions adopted by the House of Delegates of the American Medical Association in September 1938.

2. The House of Delegates cannot approve the methods by which the objectives of the National Health Program are to be obtained.

3. The Wagner Health Bill does not safeguard in any way the continued existence of the private practitioners who have always brought to the people the benefits of scientific research and treatment.

4. The Wagner Health Bill does not provide for the use of the thousands of vacant beds now available in hundreds of church and community general hospitals.

5. This bill proposes to make federal aid for medical care the rule rather than the exception.

6. The Wagner Health Bill does not recognize the need for suitable food, sanitary housing and the improvement of other environmental conditions necessary to the continuous prevention of disease.

7. The Wagner Health Bill insidiously promotes the development of a complete system of tax supported governmental medical care.

8. While the Wagner Health Bill provides compensation for loss of wages during illness, it also proposes to provide complete medical service in addition to such compensation.

9. The Wagner Health Bill provides for supreme federal control; federal agents are given

authority to disapprove plans proposed by the individual states.

10. The Wagner Health Bill prescribes no method for determining the nature and extent of the needs for preventive and other medical services for which it proposes allotments of funds.

11. The Wagner Health Bill is inconsistent with the fundamental principles of medical care established by scientific medical experience and is therefore contrary to the best interests of the American people.

12. The fortunate health conditions which prevail in the United States cannot be dissociated from the prevailing standards and methods of medical practice.

13. No other profession and no other group have done more for the improvement of public health, the prevention of disease and the care of the sick than have the medical profession and the American Medical Association.

14. The American Medical Association would fail in its public trust if it neglected to express itself unmistakably and emphatically regarding any threat to the national health and well being. It must, therefore, speaking with professional competence, oppose the Wagner Health Bill.

15. The House of Delegates would urge the development of a mechanism for meeting the needs for expansion of preventive medical services, extension of medical care for the indigent and the medically indigent, with local determination of needs and local control of administration, within the philosophy of the American form of government and without damage to the quality of medical service.

16. The fundamental question is how and when a state should be given financial aid by the Federal Government out of the resources of the states as a whole, pooled in the Federal Treasury.

17. The bizarre thinking which evolve the system of federal subsidies—sometimes called “grants-in-aid”—is used to induce states to carry on activities suggested frequently in the first instance by officers and employees of the Federal Government.

18. The use of federal subsidies to accomplish such federally determined activities has invariably involved federal control.

19. Any state in actual need for the prevention of disease, the promotion of health and the care of the sick should be able to obtain such aid in a medical emergency without stimulating every other state to seek and to accept similar aid, and thus to have imposed on it the burden of federal control.

20. The mechanism by which this end is to be accomplished, whether through a federal agency to which any state in need of federal financial assistance can apply, or through a new agency created for this purpose or through responsible officers of existing federal agencies, must be developed by the Executive and the Congress, who are charged with these duties.

21. Such a method would afford to every state an agency to which it might apply for federal assistance without involving every other state in the Union or the entire government in the transaction.

22. Such a method would not disturb permanently the American concept of democratic government.

2. RESOLUTIONS ADOPTED BY THE CONFERENCE OF STATE AND TERRITORIAL HEALTH OFFICERS, APRIL 22, 1939, WASHINGTON, D. C.

Whereas, The Interdepartmental Committee to Coordinate Health and Welfare Activities has submitted to the Congress and the country a National Health Program; and

Whereas, The House of Delegates of the American Medical Association, representing the physicians of this Nation, unanimously resolved that "very definite and decisive action (on the program) should be taken now"; and

Whereas, Legislation has been introduced into the Congress implementing this program; now therefore be it

Resolved, By the Conference of State and Provincial* Health Authorities of North America

I. That we urge the passage of legislation making effective Recommendations I, II, III, and V of the National Health Program as follows:

1. The general principles outlined by the Technical Committee for the expansion of general public health and maternal and child health service are approved, with the provision that the expansion of public health and maternal and child health service should not include the treatment of disease except when it is determined in any state, or subdivision of a state, that this cannot be successfully accomplished through private practitioners.

2. That we favor the expansion of general hospital facilities and of special hospitals for tuberculosis and mental diseases in any state, or any subdivision of a state, where actual studies show that a need exists, and where such additional facilities can be assured of adequate staffs and maintenance.

3. That we approve the principle that complete medical care of the indigent is a joint responsibility of local governments and the medical and allied professions, and should be supported by tax funds. Since the indigents and the medically indigent now constitute a large group in the population, we recognize that state aid for medical care may arise in any community and that supplementary federal funds must be provided so that this group of people will receive a good quality of medical care. We wish to emphasize the importance of a far-reaching program for public health education of all the people in order that they may take advantage of the good medical service now available, or which is to be made available. We favor this expansion of the public health program providing medical care for the medically needy, because it has been approved by the American Medical Association representing the practicing physicians of the country. We especially approve the continuation of the principle which has been developed by federal public health agencies "that the role of the federal government should be principally that of giving financial and

technical aid to the states (where needed) in their development of sound programs through procedures largely of their own choice."

4. That we approve of the extension of unemployment insurance for compensation for loss of wages due to illness, with the provision that the attending physician be relieved of the duty of certification of illness and recovery, which function should be performed by a qualified medical employee of the disbursing agency.

II. That we oppose the enactment of any laws encouraging or aiding so-called compulsory health insurance at either federal or state levels as impractical of administration, extravagant and as providing illusory and increasingly expensive costs of medical care while lowering its quality, and as opposed to the American system of government and economics.

III. That we approve the spirit of the recent federal reorganization and urge upon the President and the Congress that all federal public health agencies be administered through a national department of health, and that, pending such establishment, federal health agencies be assembled in and administered by a division in an existing department or other federal agency, and we especially object to the assignment of any new or existing public health function to any bureau or board, not now administering such functions, because this would necessarily result in uneconomic duplication, complication and confusion in public health administration.

The Doctor in Court—I cannot stress too strongly the importance of thorough investigation of both sides of the case by the doctor who is asked to give expert testimony; for the doctor who is to testify must realize that he is going to be questioned not only by his colleague's lawyer, who will naturally be kindly disposed, but also by the lawyer for the other side, who will do everything in his power to tear down the expert's testimony in order to obtain a judgment in favor of his own client. For this reason, the doctor who is testifying must have at his command facts which cannot with ease be proved to be incorrect.

A doctor must remain cool when giving testimony. He should make his statements in clear and simple language, and, whenever it is necessary to resort to the use of medical terms, he should make every effort to explain the import of the terms, so that the jury and the judge may not wrongly feel that technical nomenclature is being employed deliberately to confuse them and prevent them from evaluating the meaning of what is being said. The simpler, the less obscure the testimony is made, the better it will be for all concerned.

When an expert first takes the witness stand, there is usually a long hypothetical question put to him. In order to prepare himself properly to answer such a question, it is wise if possible for him to have the question made available to him before he is put on the stand, as it is manifestly impossible for anyone to answer at a moment's notice a question which may be six, eight, or ten typewritten pages in length.—Cohn, *New Orleans M. & S. J.*, May 1939.

*As this resolution refers to legislation affecting the United States, the Provincial representatives present were excused from voting.

TRANSACTIONS OF THE ASSOCIATION

1939 SESSION

(Concluded)

Last Day, Thursday, April 20

The Association, sitting as the Board of Health of the State of Alabama, was called to order at 10:30 A. M., by the President, Dr. Seale Harris.

The report of the Board of Censors was rendered by the Chairman, Dr. E. V. Caldwell.

THE SIXTY-SIXTH ANNUAL REPORT OF THE STATE BOARD OF CENSORS INCLUDING ITS REPORTS AS THE STATE BOARD OF MEDICAL EXAMINERS AND AS THE STATE COMMITTEE OF PUBLIC HEALTH.

E. V. Caldwell M. D., Chairman

The State Board of Censors, in conformity to constitutional mandate, has the honour to submit to this Association its Sixty-Sixth Annual Report.

PART I

AS A BOARD OF CENSORS

The Board again points with satisfaction to the continued fine spirit of harmony prevailing throughout the Association. On every side within our ranks is to be observed an appreciation of the need for a closer and more understanding integration of scientific medicine into our modern social structure and that, in the attainment of such an objective, the medical profession, collectively and as individuals, must make its full contribution. That the membership of this Association is fully awake to these responsibilities is amply shown by the splendid reports submitted at this meeting by its officers and its several standing committees, to which more specific attention will be directed later.

POSTGRADUATE MEDICAL STUDY

The first of April 1939 witnessed the maturation of a plan long fomenting in the minds of the members of the Board and of your Standing Committee on Postgraduate Study. It was the result of your willingness, by unanimous vote, to have some of the Association's earnings pooled with certain other funds derived through your health department and from the Commonwealth Fund, in order to bring to the physicians throughout the state the newest knowledge and techniques of modern scientific medicine. Upon the completion of the financial arrangements, considerable difficulty was experienced in procuring the services

of a teacher-clinician of outstanding attainments who could adequately present the subject first decided upon for the lectures, viz., diagnosis and internal medicine. Through the efforts of Dr. Maxwell E. Lapham, Director of the extension courses of Tulane University and who also assumed charge for the arrangement of the courses for Alabama, the Board feels that we have been peculiarly fortunate in procuring the valuable services of two such outstanding teachers as Dr. V. P. Sydenstricker, of the teaching staff of the Medical Department of the University of Georgia, and of Dr. Julius L. Wilson, Associate Professor of Medicine of the Tulane Medical School. While the courses have just begun, all indications point to the fact that these lectures will be gratefully received and well attended by our members. The Board takes this occasion to congratulate the Association on the consummation of this much needed, forward-looking step and expresses the hope that, through the interest and attendance of our members, the success of this new venture may be assured and the quality of medical care rendered in this state lifted to a still higher plane.

The Board suggests that, in the arrangement of the schedule of lectures to be given at selected points throughout the state, consideration might be given to the utilisation of the talent within our own organisation in certain specialties, such as pediatrics, the control of cancer, the venereal diseases, tuberculosis, etc. Participation in the program on the part of our membership would be voluntary and predicated upon the assumption that the arranged schedule of lectures would permit of such amplification in one or more special fields.

SURVEY OF MEDICAL NEEDS AND FACILITIES

It will be recalled that at the last annual meeting of this Association a nation-wide survey of existing medical needs and facilities, sponsored by and under the auspices of the American Medical Association, was brought to the attention of the Association by this Board. The purposes of this undertaking—manifestly a rather pretentious one—was, at that time, outlined and explained by Dr. J. S. McLester, speaking for the American Medical Association, and the membership urged to so cooperate as to assure its success. The Board regrets to note from the Secretary's report that cooperation in this worthy effort, on the part of many county medical societies, has been far from gratifying, inasmuch as but seventeen of the sixty-seven county societies have thus far rendered any sort of report. While the Board appreciates the fact that this study called for a considerable amount of rather labourious effort, yet it is felt that for those counties which did serious-

ly and earnestly undertake the task much valuable knowledge was gained, which should prove most helpful in finding a solution for their own particular medico-economic problems. However, of those county societies reporting, the exhaustive and illuminating study made in Jefferson County is especially worthy of commendation (See the January 1939 issue of the State Medical Journal, page 259) and should be carefully studied by the members of this Association.

RESEARCH STUDIES IN THE FIELD OF PUBLIC HEALTH

The Board takes pleasure in again directing the attention of this Association to the research studies in the field of public health now being conducted in this state under the auspices and sponsorship of the health department and with the financial aid of such extra-state agencies as the Commonwealth Fund, the Rockefeller Foundation, Julius Rosenwald Fund, the United States Public Health Service and the Tennessee Valley Authority. The progress being made in each of these studies is briefly set forth in the State Health Officer's report. To have research activities of this nature going on in Alabama is proof enough that our health department is not only not static but also that it is possessed of a vision and determination to forge forward in a quest for the solution of certain problems yet unsolved in the public health field. The Board, therefore, feels that such efforts are eminently worth while and entitled to the encouragement and commendation of this Association.

LEGISLATION

At the last annual meeting, the Board directed attention, and this Association gave approval, to contemplated plans for the expansion of the activities of the health department and also to the wisdom of amending certain existing health statutes now obsolete and outmoded. This Association further instructed this Board and the State Health Officer to prepare the necessary legislation looking to this end for the consideration of the 1939 Legislature. Bills dealing with the following subjects were prepared and have been introduced into the Legislature:

(a) Increase in the present annual appropriation to the health department from \$430,000 to \$530,000.

(b) Two bills designed to aid counties in better caring for their tuberculosis problems. The *first* provides for an increase from 75c to \$1.00 of the present per diem state subsidy to counties and also a gradual increase in the present state appropriation of \$75,000 annually in order to adequately provide for an expanded program of tuberculosis control. The *second* bill is designed to aid counties (or districts) in a building program and provides an appropriation by the state of \$50,000 for each of the two ensuing fiscal years for this purpose.

(c) To better stabilise county appropriations for local health work by providing that the amount appropriated shall be on a per capita

basis of not less than a specific sum to be fixed by the Legislature.

(d) To amend the present marriage laws of the state by requiring a medical certificate of both contracting parties, including a blood test for syphilis, and certain of the existing statutes relating to the control of the venereal diseases.

(e) To amend and strengthen, in certain particulars, the present Rabies Act.

(f) To amend existing statutes relating to vital statistics.

(g) To amend present acts relating to the construction and operation of hospitals.

(h) To provide in the statutes a definition of "disease."

(i) To amend the present act relating to the holding of examinations for medical licensure.

Because of the desire on the part of the Governor and of the Legislature to pilot successfully to the statute books many administrative measures considered to be important and necessary during the first session of the Legislature, time was not afforded for final action on but two of these measures; consequently the ultimate fate of these bills will not be decided until the reconvening of the Legislature during the coming summer. In this connection, the Board wishes to again remind the members of this Association of the fact that they are integral and important factors of the health machinery of this state and that each member should deem it a privilege and duty to exert a real effort to see that the important health measures embraced in this legislation receive the hearty support of his legislativemen.

In addition to the above legislation already introduced, the Board has given careful consideration to frequent requests made of it by members of the Alabama State Chiropodist Association for recognition of their group through the present legal channels of medical licensure. It will be recalled that, at the last session of the Legislature, strenuous effort was put forth by certain chiropodists in the state to procure such legal recognition by the establishment of a separate licensing board for chiropodists. The bill introduced embraced features to which neither this Board nor this Association felt would be wise to give endorsement and which the Legislature did not see fit to enact into law. The laws of this state have placed upon this Board the responsibility of passing upon the qualifications of all who attempt to treat diseases of human beings, in accordance with the rules prescribed by this Association. In a consideration of this particular appeal, the Board entertains two convictions:

(1) That it is unwise, destructive of proper standards and inimical to the protection of the public health to set up a multiplicity of boards and standards to determine who may or may not engage in the healing art; and

(2) That, for the safety of the public health, the particular group in question, limiting its activities definitely to a circumscribed field of the healing art, is entitled to legal recognition and status after compliance with standards fixed by law and by the State Board of Medical Examiners.

The Board now submits for your consideration and action the following amendment to the Medical Practice Act, which, if approved by this Association, will be sponsored by it before the Legislature. Add to Section 2837:

"In the case of applicants who are to diagnose only local ailments of the human foot and to treat such ailments only locally, extending treatment no deeper than the true skin and using only local anesthetics in connection with such treatments, such applicants need possess only such qualifications and submit to such examinations only as, in the judgment of the State Board of Medical Examiners, are necessary for the protection of the public health, safety and morals and as are prescribed by said Board in regulations duly promulgated. Said examinations shall embrace the anatomy and physiology of the foot; the diagnosis and treatment of diseases and ailments of the foot, asepsis, antisepsis, therapeutics and clinical chiropody. On proof of possessing such qualifications and on passing such an examination, either before the State Board of Medical Examiners or before an examiner or examiners appointed by it, to the satisfaction of said State Board of Medical Examiners, an applicant shall be licensed as a chiropodist and authorised to diagnose and treat local ailments of the human foot, but only by local treatment extending no deeper than the true skin and using only local anesthetics in connection with such treatment, all to be done in accordance with such rules as may be promulgated by the State Board of Medical Examiners to accomplish the ends aforesaid; and said Board is hereby vested with authority to promulgate such regulations and to do such other acts as may be necessary to carry this amendment into effect, including the revocation of a certificate of qualification to practise chiropody and the enforcement of all laws governing illegal practitioners of the healing art which are now or may hereafter be in force."

The Association authorized the Board to sponsor before the Legislature the amendment as read.

THE CIVIL SERVICE BILL

The recent action taken by the Legislature, when creating a civil service system for state employees, in which is included, also, the professional and technical personnel of the State Health Department, demonstrates anew the difficulty encountered by the lay mind of grasping the unique philosophy breathed into Alabama's health organization by the Legislature itself more than sixty years ago. By this act—unwittingly, no doubt, but nonetheless true—which entrusted an important activity of state government to the medical profession, the Legislature automatically removed its health department from the possible baneful and damaging influences of a political atmosphere. The objectives sought by such legislation were appreciated by this Board and the State Health Officer for the reason that the administrative policies of the health department have ever rested upon the rendition of satisfactory service based solely upon qualification, merit and good conduct. In truth, the history of Ala-

bama's health department throughout its entire career—now become an ingrained policy—has been one of service to our people and of non-political entanglements. With these facts readily conceded by all, this Board and the State Health Officer—speaking for this organisation—felt justified in importuning the Legislature to exclude the health department from the workings of a civil service system; that, by such inclusion, political channels would likely be opened up, thus nullifying a far-seeing action which a former Legislature had taken. The surge for political reform, it seems, was so great in the minds of many that small time could be given to cogent reasoning or a critical analysis of individual claims. The attitude taken by the Legislature and by the press was that Alabama's health department was but one of the many activities of state government and consequently should neither ask for nor expect preferential treatment.

The act as finally passed by the Legislature includes all employees of the central State Health Department. So long as the responsibility for the direction of health work in this state rests upon this organisation the Board has felt that this Association should have this explanation of the stand taken before the Legislature in defense of a principal which it deemed important to have preserved.

PROGRESS MADE BY COUNTY MEDICAL SOCIETIES IN COOPERATION WITH THE FARM SECURITY ADMINISTRATION

It will be recalled that, at the last meeting of the Association, resolutions were presented from the Medical Societies of Coffee and Wilcox requesting that the existing ordinances governing medical contracts be so amended as to permit ethical relations to be entered into by county medical societies with certain federal agencies, particularly the Farm Security Administration, which were seeking to rehabilitate rural families of the lower income group. This whole matter was carefully studied and reviewed by both this Board and our Committee on Public Relations. Following upon these studies, there were submitted to this Association certain amendments to the contract practice ordinance which removed existing obstacles in this regard. These amendments were unanimously approved by the Association. Shortly after this action, a model form of agreement, embracing the salient and ethical principles enunciated in the ordinance, was drawn up for the guidance of those medical societies desiring to enter into contractual relations with federal agencies. During the past year, cooperative agreements have been entered into in twenty-three counties. While such working arrangements are still in the formative stage and much yet to be learned from their practical application and testing, the Board feels that the sympathetic approach which has been made by the members of the profession in certain of our rural counties, in a genuine effort at cooperation, is not only to be commended and encouraged but also that a study and evaluation of their experiences should lead to marked improvements in the

shaping of future plans for this type of medical service. In this connection, the Board has pleasure in here incorporating the following extracts from a report recently made the State Health Officer by the Assistant Regional Director of the Farm Security Administration in Charge of Rural Rehabilitation, which sets forth not only the accomplishments made in this field but also the appreciation of the agency for the cooperation given by the medical profession and the health department:

"During the past eighteen months, 8,206 sanitary units, meeting the approval of your sanitary engineers, have been constructed on farms either owned or leased by clients of this administration.

"During the past year, five counties were selected in the state in which we made a special effort to improve sanitary conditions by constructing sanitary units, improving and protecting the water supply, and screening the house. This work was done on 836 farms in these five counties.

"The group medical service has been definitely accepted by twenty-three county medical societies for this year. We are still receiving requests from other counties for this program and indications are that it will be in operation in approximately thirty counties this year. This will make the service available to about 10,000 clients who are definitely in the very low-income group.

"In an effort to make the above services most effective and with the most excellent cooperation of your office, we expect to have all clients of this Administration, numbering approximately 20,000 this year, examined for hookworm, and those found to be carriers will be treated.

"The splendid cooperation received from you and members of your staff has made it possible for us to launch the above program. In our efforts to rehabilitate these low-income farm families, we have become definitely convinced that poor health is limiting our progress more than any other one thing."

PENDING FEDERAL LEGISLATION

On February 23rd, 1939, two bills bearing on the health and welfare of the people of this nation and of vital importance to the medical profession were introduced into the Federal Congress.

One, introduced by Mrs. Edith Nourse Rogers, of Massachusetts—H. R. 4585—seeks to amend the act approved August 5, 1937, creating the National Cancer Institute, by making an additional appropriation of \$2,300,000 for the fiscal year ending June 30th, 1940. The purpose of this amendment is to enable the Public Health Service to assist states, counties and cities to extend and improve measures through public and private institutions and organizations for the diagnosis, treatment and control of cancer, including the provision of hospital, diagnostic, clinic and other facilities for the diagnosis and treatment of persons suffering from cancer or suspected of suffering from this disease and with preference to be given to needy persons. The act further provides for administration at the federal level by

the Surgeon General of the Public Health Service with the advice of the National Advisory Cancer Council (created in the original act) and the Conference of State and Territorial Health Officers, and for administration at the state level by the health authority of the respective states or by any other state cancer control agency. The sums to be granted the several states are to be allocated on the basis of (1) population, (2) the death rate from cancer, (3) existing facilities for the diagnosis and treatment of cancer, and (4) financial needs of the respective states. Before participation on the part of states, plans are to be submitted and approved, which, among other requisities, are to show financial participation, either on the part of the state or locally, in an amount equal to federal funds received. In this legislation one sees expressed an appreciation of the enormity of the specific problem of cancer control, as well as the need for extending federal aid to states along lines similar to the federal legislation now in operation for the control of the venereal diseases.

The second federal legislation of deep concern to the profession is that known as the National Health Act of 1939 introduced by Senator Robert F. Wagner, of New York—S. 1620. This act, extensive in scope, seeks to further expand preventive health services now in force under Titles V and VI of the Social Security Act and to provide aid to states in the fields of medical and hospital care for the underprivileged. The time factor precludes, at this time, a detailed analysis of the contents of this act. Broadly conceived and dealing solely with general principles, so that it might be made applicable to, and workable in, all of the states, no attempt has been made to frame such federal legislation in too specific detail.

The measure makes use of the sound procedure of grants-in-aid to the various states, which provide a wide latitude to the individual states in the development of their own health plans, conditioned by the particular health problems of greatest importance to their own people. Such grants-in-aid are provided for the purpose of establishing, expanding and improving state programs in their field of child and maternal health, general public health services and investigations, construction of hospitals and health centers in communities where they are most needed, general medical care, and insurance against loss of wages and salaries during periods of temporary disability. At the federal level, administration of the act, if it is passed in its present form, will become the responsibility of three already established federal agencies, namely, the Children's Bureau, the United States Public Health Service, and the Social Security Board. Administration, at the state level, is to be made the responsibility of the official state health agency, which, in every instance, is now directed by a graduate physician. In discussing the bill at the time of its introduction, its sponsor declared that "the fullest development of this program would bring the benefits of modern medical science, both preventive and curative, within the reach of all groups of the population, especially in the rural areas, suffering from economic distress." In view of the fact

that approximately 70 per cent of the people of Alabama are residents of rural sections and the even more significant fact that only one other state of the Union ranks below this one in per capita wealth, the National Health Act of 1939, if sanely and wisely administered, would make available to the people of this state added facilities which are badly needed.

The Federal Government will not undertake to furnish medical care. Administration in all cases, except, of course, in the matter of the necessary federal allocation of funds and insistence upon states complying with the proper standards of performance, will be through the states, which will formulate their plans on the basis of local needs, conditions and problems. No attempt will be made to displace existing activities with new ones, although naturally these activities will be able, with additional funds, to expand and to operate much more effectively.

No system of health insurance is contemplated in the bill as a function of the Federal Government, nor is any participating state required to institute such a system. In that section of the measure dealing with a general program of medical care (Title XIII), the states will be at complete liberty to develop, under the inspiration of local needs, subject, of course, to the proviso that the programs devised must square with certain basic standards to be set by the three federal agencies that have been mentioned. The general medical care program which a particular state may formulate as best for its own people may be limited, at the discretion of its officials, to persons on relief, or, again at their discretion, it may be broadened to include those of non-relief status. It may be financed entirely by insurance contributions, or from tax funds, or from both. The method and scope of medical service to be provided likewise are to be determined by the proper officials of the state concerned and, of course, these services may be provided by private agencies and institutions already in operation, if that is desired.

In order to accomplish one of the main purposes of the measure, namely the aiding of economically impoverished communities in their efforts to provide needed hospitals, medical and nursing care, the measure stipulates that the federal funds appropriated to put it into effect are to be allocated to the several states on a variable matching basis, the amount to be received by a particular state depending upon that state's relative financial resources, as determined by the per capita income of its population. Thus the bill is intended to "raise the general level of health protection throughout the country, while reducing the existing wide variations among states, and especially as between rural and urban areas."

The two new titles—XII and XIII—which the measure would add to the Social Security Act and dealing specifically with hospital and medical care, are those in which the medical profession is most vitally interested.

Title XII appropriates, for the construction of general hospitals, \$8,000,000 for the first fiscal year (ending June 30, 1940); \$50,000,000 for the second fiscal year; and \$100,000,000 for the third

fiscal year. The amount of federal funds to be made available to aid in the construction of mental and tuberculosis hospitals is unspecified, the bill merely stating that Congress shall appropriate "a sum sufficient to carry out the purposes of this title." In making allotments to the states, the Surgeon General of the United States Public Health Service is required to be guided by (1) the need for additional hospitals and (2) the economic status of the individual states. Any state plan for the use of federal funds in hospital construction must provide for financial participation by the state concerned and for the administration of the hospital construction program by the "state health agency" or under its supervision, if actually administered by some other agency. The proportion of the total cost of construction of these hospitals to be assumed by the Federal Government would range from one-third to two-thirds, depending upon the per capita income of the inhabitants of each participating state as determined on a three-year basis by the Secretary of the Treasury, the Secretary of Labor, and the Chairman of the Social Security Board. In order to assist also in the maintenance of these added facilities until they should become self-supporting, federal funds would be available during the first year of operation at the rate of \$300 per added bed for general and tuberculosis hospitals and at the rate of \$150 per added bed for mental hospitals. This federal aid would be reduced to two-thirds of these amounts the second year and to one-third the third year.

Title XIII, providing grants to states for medical care, carries an appropriation of \$35,000,000 for the first year and authorisation for the appropriation in each subsequent year of "a sum sufficient to carry out the purposes of this title." Allocation of funds to the states would be based upon (1) population, (2) the number of persons needing such services, (3) special health problems, and (4) the states' financial resources. State plans must be approved by the Social Security Board.

It will thus be seen that this proposed legislation incorporates no measures or principles in conflict with the pronouncements already made by the House of Delegates of the American Medical Association, speaking for the organized medical profession. In the absence of such conflict and in the light of the manifest great good which should come to our people through the co-operative effort of governmental agencies in these fields with the sympathetic guidance of the medical profession, the Board recommends that the purposes and principles of such federal legislation be endorsed by this Association.

Dr. J. S. McLester moved non-concurrence in this recommendation of the Board, which motion received a second.

The question was discussed by Drs. W. E. Wilson, John A. Martin, and A. A. Walker; whereupon, the motion for non-concurrence prevailed. Therefore, the recommendation of the Board was not adopted.

THE PRESIDENT'S MESSAGE

The President, after first graciously expressing appreciation to the Association for the honour be-

stowed by elevating him to the presidency and for the able assistance given him by the various officers of the Association which materially lightened and made more pleasurable his duties, promptly proceeds to direct attention to certain current problems which he feels should claim this Association's attention.

1. *Postgraduate Instruction:*

Here the President briefly recounts the steps, gradually evolved over a period of several years, taken by this Association through its Committee on Postgraduate Study and this Board, which have successfully culminated in graduate instruction for physicians throughout the state. He points out that these courses are now in operation, with lectures and clinics being supplied by outstanding teachers of medicine and urges every physician to avail himself of the exceptional opportunities being afforded for keeping abreast in the newest things in medicine. The Board concurs in this section of the message.

2. *Medical Care:*

The President makes mention of the statesman-like document which emanated from the House of Delegates of the American Medical Association last September when that body, in special session, attempted to chart a course for organized medicine in its attitude and relations to the five recommendations made by the Technical Committee on Medical Care which had been submitted for its consideration. He points out that while this body approved, in principle, four of the suggestions made by the Committee, it unqualifiedly disapproved that of universal compulsory sickness insurance. He recommends that the pronouncements made by the House of Delegates of the American Medical Association relating to expanded hospital and medical care and preventive health services be given formal approval by this Association and that Alabama's Senators and Representatives be requested by it to actively support federal legislation in consonance with such expressed views and without political or lay domination. The Board is in full accord with this section of the message and recommends its approval by the Association.

3. *Public Health Needs in Alabama:*

In this section, attention is directed to the efficient and unselfish manner in which this Association, as the duly constituted Board of Health, has conducted the state's health affairs. The recommendation is made, which this Board heartily approves, that this organization, through suitable resolutions, go on record as endorsing the bills already before the Legislature dealing with appropriations to the health department. Such a resolution has been introduced, with which the Board deals a little later in this report. This section of the message is entitled to the approval of the Association and the Board so recommends.

4. *Four-Year Medical School:*

This section of the President's Message deals, at some length, both with the needs for a four-year

medical school in Alabama and also with the present deficiencies in supplying adequate medical and hospital care for the necessitous and near-necessitous. There then follows an earnest plea to the Governor and to the Legislature that no means should be spared to make available sufficient funds for financing the urgent needs of our state in these important fields.

These deficiencies, discussed in this section of the President's Message, are matters of deep concern to the organized profession of this state and embrace problems to which this Board has given serious consideration. It further feels that it is entirely proper for this Association to bring them to the attention of the Governor and the Legislature, and, therefore, recommends that approval be given to this section.

5. *A Medical History of Alabama:*

This section of the message discusses, in interesting fashion, the need for having the exceptionally rich medical history of Alabama faithfully and accurately recorded and makes mention of several eminent members of our profession interested in such an undertaking. The recommendation is made that a standing committee be created by the Association to be known as the Committee on Archives and Medical History to cooperate with other interested agencies within the state.

The Board takes occasion to point out that, several years ago, this matter received serious consideration at its hands and the details of such a publication carefully gone into. Furthermore, the cost of such an undertaking seemed, at that time, prohibitive. It is unquestionably true that this Association must never lose sight of the importance of preserving for those who come after us a record of its members who have contributed to its upbuilding. As mentioned by the President, the Association now has within its present membership several outstanding physicians who are deeply interested in its medical history and that their talents might be utilized by the creation of a special committee to be known as a Committee on Archives and Medical History to work in close cooperation with the State Director of Archives and History, the State Board of Censors, the University of Alabama, and other agencies interested in the building and recording of Alabama's history. With these views the Board is in entire sympathy and accord, and recommends to the Association that it give its approval to the appointment of such a special committee by the incoming President, which committee will serve without cost to the Association.

6. *Committee on Pharmacy:*

This section of the message points to the unquestioned evils flowing from the increased tendency, on the part of individuals to self-medication and to the equally great tendency, on the part of druggists, to counter-prescribing. The President truthfully states that many of these difficulties arise from the indifference and inertia of physicians who are willing to accept blindly the exaggerated claims of the manufacturer or the detail salesman, rather than relying on his own knowledge of pharmacology or accepting guid-

ance from the Council on Pharmacy and Chemistry of the American Medical Association. He then cites the splendid work done by the Committee on Pharmacy of the New Jersey State Medical Association and suggests that a similar committee, of a temporary nature and without expense to the Association, be created.

In 1933, this Association, because of the unsatisfactory functioning of the standing committees then existing and upon recommendation made by the Board, abolished the eight committees which had been created over a number of years, and set up, in their stead, five; the purpose being to render to the Association a more modernised, efficient and helpful service through the agency of standing committees. Among the committees abolished was one denominated "Physician-Druggists," which, in the earlier years of the Association's life, had rendered a valuable service, but which, at that time, appeared well-nigh lifeless. Since 1933 two additional standing committees have been added, to better meet changing conditions. In the light of the above facts, the Board feels that such a temporary committee, as suggested, and to be selected by the incoming president, in accordance with paragraph 8 of the ordinance governing the organisation of committees, and to function without expense to the Association, might well render useful service. The Board, therefore, recommends the authorisation of such temporary committee and that it be instructed to work in close cooperation with the pharmaceutical profession.

7. *Bichloride of Mercury Suicides and Indiscriminate Sale of Barbituric Acid Compounds:*

This section deals with the tragic consequences resulting in the indiscriminate sale and use of bichloride of mercury with suicidal intent, and points to the need for drastic restrictions being thrown around the present promiscuous methods for dispensing and selling so dangerous a drug, now having the status of a household remedy. Mention is also made of the dire effects resulting from the indiscriminate sale of the barbituric acid compounds by druggists without authorisation of such sale on a physician's prescription. The Board is in hearty accord with these views.

In so far as the sale of the barbituric acid compounds is concerned, the Board directs attention to the fact that there is already on the statute books of the state legislation which prohibits the sale of these drugs except on a physician's prescription and that the refill of such prescription is not to be made except upon the authority of the physician himself. Unfortunately, this act does not provide for proper and adequate enforcement of its provisions. However, the Board feels that this is a matter of such great importance that the medical profession should put forth every effort to see that through cooperation on its part with the pharmaceutical profession and the retail druggists of the state a better compliance with the provisions of this act is had. The Board, therefore, recommends that this Association give approval to such regulatory measures either state or federal, or both, which would tend to restrict or

minimise the disastrous consequences resulting from the present promiscuity in the dispensing and sale of these drugs.

8. *Citations for Pioneer Work in Medicine and Surgery:*

This section of the message enumerates the outstanding pioneer work, largely of an investigational, clinical and practical nature, which has been conducted in Alabama, and contributed, in most part, by eminent members of our own profession. Specific mention is made of the momentous and pioneering clinical researches in the field of pellagra by Dr. Tom D. Spies, of the University of Cincinnati, working with nicotinic acid at the Hillman Hospital; of Dr. George Searcy, of Tuscaloosa, now deceased; of Dr. E. L. McCafferty, of Mt. Vernon; and, in the field of clinical surgery, of the contributions made by Dr. L. L. Hill on surgery of the heart. The President points out that the early investigations and observations made and recorded by these workers have had such a pronounced influence in shaping the subsequent course of events in these fields that it is fitting for this Association to give recognition to them in some appropriate manner. With the sentiment expressed, as well as with the suggestion made that a committee from the State Board of Censors be authorised to work out the details of appropriate citations, the Board is in hearty accord, but would like to suggest that to this list there be added the name of our President, Dr. Seale Harris, Sr., of Birmingham, for the outstanding and original contributions which he has made in the field of hyperinsulinism. It is, therefore, recommended that, with this addition, the Association give approval to this section of the message.

9. *A Fuller Recognition by the United States Postal Department of the Contributions Made by the Medical Profession:*

This section of the President's Message discusses the plans which are now being made by the United States Postal Department to better perpetuate the memory and achievements of certain eminent persons of this country who have made outstanding contributions in the fields of science and literature, and directs attention to the fact that the proposed list, while including some six or eight times as many names of literary men, mentions but four names culled from the whole realm of medicine. The suggestion is made that, through concerted effort put forth by state medical associations and the outstanding national organisations, both in the field of medicine and surgery, appeal be made to the proper authorities in Washington, seeking the addition of the following from the long list of immortals in medical science; namely, J. Marion Sims, Ephraim McDowell and Crawford W. Long. The Board is in accord with these views and suggests that this Association request the State Health Officer and the Secretary of the Association to look further into this matter and take such steps as might seem advisable to accomplish the purposes set forth in this section of the President's Message.

10. *Deficit in the James Marion Sims Memorial Fund:*

This section of the message points out the untiring efforts which have been put forth by the James Marion Sims Memorial Committee to comply with the provisions of the resolution adopted by this Association one year ago obligating it to the expenditure of an amount not to exceed \$1,000.00, upon condition that this Committee raise through subscriptions at least \$1,500.00. The President points out that despite these efforts on the part of this Committee, through repeated appeal by letter, to bring these subscriptions up to the amount stipulated, there still exists a deficit of \$254.40. The suggestion is made by the President that, in view of the fact that this undertaking has been pushed to completion and reflects such great credit upon this organisation, and inasmuch as this deficit represents a comparatively small amount, this Association authorise the payment out of its funds of an amount not to exceed \$300.00, over and above the \$1,000.00 already paid by the Association. The Board, after looking into the present condition of the Association's finances, recommends to the Association that it give approval to this additional expenditure on the part of the Association.

The closing paragraphs of the President's Message are in the nature of an exhortation to the younger members of the profession of the need for them not only to keep fully abreast of the times through continuous study of the many advances being made in the field of scientific medicine but also of the great need for their identifying themselves with organised medicine, local, state and national, in order that they may be in position to render the greatest service to the science and art of medicine.

Viewed in the whole, the President's Message is a comprehensive, constructive and forward-looking document, worthy of a careful perusal and study of the entire membership of this Association.

The Association concurred in the Board's views regarding the several recommendations of the President.

REPORTS OF THE VICE-PRESIDENTS

It is with sorrow and deep regret that the Board, in making its customary report to the Association on the activities of its several officers, is forced to record the untimely death, on March 23rd, 1939, of our able Vice-President of the Southwestern Division, Dr. Alvin B. Coxwell, of Monroeville. Of the resolutions already presented to the Association, bearing on the death of Vice-President Coxwell, the Board heartily approves and suggests that the Secretary of the Association be instructed to furnish a copy of these to the bereaved family.

These reports reveal an encouraging increase of activity and interest throughout each of the four divisions and that at least two meetings were held in all; and in one—the Northwestern Division—three. The suggestion made by the Vice-President of this district that a new edition of the "Compend" be issued, the Board views as timely.

It is suggested that the Association authorise the Board to proceed with this compliance, when, in its judgment, the time seems opportune.

The Board, therefore, feels that these reports are entitled to the full endorsement of the Association and expresses the hope that these important officers will continue to receive in the future the splendid support from our membership which has been given them during the past year.

The reports of the Vice-Presidents were endorsed by the Association.

REPORT OF THE SECRETARY

This report reveals that over the five-year period—1935-1939—there has taken place a fairly steady increase in our membership which represents a flattering percentage of 86.6 of eligible physicians and with eleven counties boasting one hundred per cent membership. Included in this report are quotations from the questionnaires of certain counties reporting their conclusions, after making the survey of medical and hospital facilities of their respective counties, which had been recommended and sponsored by the American Medical Association. These reports seem to emphasise anew the rather deplorable condition now existing throughout Alabama in the lack of hospital facilities available to the necessitous and near-necessitous groups of our population. While these conditions involve problems primarily in the field of economics, requiring for their solution action on the part of governmental agencies, they nonetheless are problems in which the medical profession should continue to manifest a deep concern.

The Board finds this report of the Secretary to be complete and accurate and, therefore, entitled to the approval of this Association.

The Association approved the report of the Secretary.

REPORT OF THE TREASURER

Article XII of the Constitution of this Association places upon the State Board of Censors the responsibility for the investment and safekeeping of all of its funds and securities.

In compliance with this constitutional mandate, the Board has deemed it wise to have the fiscal affairs of the Association passed upon by an expert accountant, together with receiving suggestions as to suitable methods for modernising and simplifying our present system of bookkeeping. In compliance with these recommendations, the Treasurer's report, this year, deals with the finances of the Association on the calendar year—that is, from January through December—in contrast to the previous practice of using the Association year—from April to April.

The Board's Auditing Committee, after careful examination and review of the books of the Treasurer, finds them in proper order and therefore recommends their approval by the Association.

The books of the Treasurer were approved by the Association.

COMMITTEE OF PUBLICATION

The report of the Committee of Publication reveals a wholesome growth in the range of activi-

ties which the Journal seeks to embrace, as well as a satisfactory condition of the Journal's finances.

The Board recommends the approval of this report.

The report was approved.

REPORTS OF STANDING COMMITTEES

1. PUBLIC RELATIONS COMMITTEE

Farm Security Administration: This report opens with a brief review of the progress made during the past year by county medical societies working in cooperation with the Farm Security Administration for the rendition of medical care to their clients, in conformity with the ethical standards outlined by this Association in its ordinance regulating contracts and enumerates twenty-three counties in which the plan is now in operation. It is pointed out that a review of the financial arrangements stipulated in some of the agreements are lower than is consistent with good medical care and suggests that a cost plus basis might be applied. In its remarks elsewhere made in this report bearing on this subject, the Board points out that each county medical society, at the end of its first year of operation of the plan, should carefully study and review all aspects of its particular agreement and seek to modify and improve it in keeping with experiences gained. These suggestions on the Committee's part serve to strengthen the Board's recommendations and it is, therefore, strongly urged that this practice be adopted by all county medical societies.

Medical Survey by County Medical Societies, sponsored by American Medical Association: This section of the report brings out and emphasises the observations already made by this Board on this subject and is entitled to the Association's approval.

Malpractice Insurance: This section reports upon the investigations which have been made by this Committee, in conjunction with the Association's Secretary, in the matter of providing malpractice insurance for its membership on a state-wide basis. In the light of this investigation this Committee recommends that the Association not attempt to embark upon a medical defense plan of its own, but adhere to the present one now in operation. The Board recommends that these suggestions by the Committee be concurred in by the Association.

Old Age and Unemployment Insurance: This section outlines the beginning which this Committee has made in attempting to ascertain the sentiment and views of the membership of county medical societies regarding old age and unemployment insurance. Encouraged by the favourable replies which have been received from some of the county medical societies, the suggestion is made that the incoming president appoint a temporary committee to further explore this question.

The Board, because of the far-reaching implications of this problem, concurs in the suggestion for the appointment of a temporary committee to aid the Standing Committee on Public Relations in a further study of this whole question, but recommends that the responsibility of the further

prosecution of the work remain in the hands of the Committee on Public Relations.

Legal Testimony: Because of the importance of the subject matter dealt with in this section, the Board quotes it in full:

"On other occasions in recommendations by this Committee and in presidential reports, reference has been made to the relationship of physicians as witnesses in the courts of this state. In all instances, the unquestioned need and desirability of competent medical testimony has been established as an essential and paramount necessity in medicolegal considerations and a duty devolving upon the practitioners of medicine to honorably and unreservedly discharge. The Committee feels that it bespeaks the sentiments of the members of this Association when it recommends that the Medical Association of the State of Alabama declare itself as opposed to any legislation, whether arising within its own body or any other governmental agency, that would restrict physicians on the witness stand, in presenting before the court, testimony that he alone can render and that rightfully may be demanded by the litigants."

Even though the confidential nature of the relationship of the physician to his patient may not be concretely written into the statutes of this state, as is the case in some states or as obtains in the legal profession in the case of the client to his legal adviser, it may be said to the everlasting credit of the medical profession that the sacred observance of these relations has made its impress upon the courts. In many cases of litigation, the expert testimony given by a physician, under oath, is all-essential to a just and equitable decision being reached by the courts. This being true, the Board has no hesitancy in recommending the approval of this section by the Association.

The Association concurred in the Board's recommendations.

2. PREVENTION OF CANCER

This report is comprehensive, exhortative and illuminating, stressing anew the great need for education, for early diagnosis and additional facilities for adequate modern scientific treatment. An outstanding accomplishment of this Committee, set forth in the report, is the state-wide survey made of the present facilities for treatment by radium and deep x-ray therapy, together with their location, which reveals an inadequacy of such equipment, particularly of available radium. In the suggested program submitted for the improvement of service both in the diagnostic and treatment fields, as well as in the education of the public, are to be found valuable suggestions which should be unqualifiedly endorsed by this Association. The Board, therefore, recommends that approval be given to the complete report and suggests that it be carefully studied by the entire membership.

Approval of the report was given.

3. POSTGRADUATE STUDY

This report sets forth the excellent work which has been done by the members of this Committee in bringing to final completion the plans for state-wide postgraduate courses, lectures and clinical

demonstrations, brought, at many points, to the entire membership of this Association. As pointed out in the report, these courses have been so carefully planned and arranged and the topics discussed so ably presented by outstanding clinicians in the field of medicine as that no practising physician can afford to neglect the exceptional opportunities now being presented him.

The Board heartily endorses the Committee's recommendations that this new effort on the Association's part to improve throughout the state the standards and quality of medical practice has such tremendous possibility for good that its perpetuation must be assured through a lively and continuing support of the individual members themselves.

This report is entitled to the unqualified approval of this Association, and the Board so recommends.

The Association gave the report its approval.

4. MATERNAL AND INFANT WELFARE

This report reveals that this Committee has made, during the past year, substantial progress along the lines set for itself in previous reports. Its activities in the educational field have been stressed and at several of the Association's district meetings the Committee has sponsored papers dealing with the three major factors in maternal deaths: hemorrhage, abortion and eclampsia. This report reveals that for the year 1938 there were nineteen more maternal deaths in the state than for 1937, and that infection still continues to be the most important factor in maternal deaths. This report makes note of the encouraging progress being made in the growth and development of prenatal clinics throughout the state and that seventeen counties are cooperating in prenatal programs. This report also directs attention to the film, "The Birth of a Baby," now being shown in Montgomery and expresses the hope that as many as possible of the visiting physicians will avail themselves of the opportunity of seeing this very impressive educational picture.

The recommendation is made by this Committee that the State Medical Association send two representatives to the American Congress of Obstetrics and Gynecologists in order that they may familiarise themselves and their county chairmen with the activities in other states.

While the Board is not unmindful of the outstanding contributions which the members of each of its seven standing committees are making to the improvement of medical care within the profession, it does not feel that it would be a justifiable expenditure of the Association's funds to finance attendance upon national, scientific, and professional organisations by members of its now standing committees.

With the exception of this recommendation in the Committee's report, the Board feels that it is entitled to the approval of this Association, and it is so recommended.

The Association concurred in the Board's action on the report of this Committee.

5. PREVENTION OF BLINDNESS AND DEAFNESS

This Committee has concentrated its efforts during the past year on a study of the difficult medical problems of a specialistic nature which

present at the State's Institution for the Blind and Deaf, located at Talladega. In its studies the Committee has received the full support and cooperation of the Superintendent of the Institute and of the State Health Department. Through the reports submitted by this Committee, over the past several years to this Association, repeated attention has been directed to the need for improvement of certain important medical services not now available to the pupils of this school; and the present report, based upon the findings of the Chairman of the Committee on a partial survey of a portion of the blind, but serves to reiterate and emphasise this need.

The Board is in full accord with the Committee's recommendation that steps be taken, if necessary, by legislative enactment, to see that the inmates of this institution are provided with adequate medical service at the hands of specialists, not only after entrance, but also before being admitted, in order that correctible defects may be found and possibly remedied; thus restoring to society a not inconsiderable percentage of children whose defects do not warrant admission to the institution.

This report is entitled to the approval of the Association, and the Board so recommends.

The Association gave its approval to the report.

6. MENTAL HYGIENE

This report reveals that steady progress has been made, during the past year, under the leadership of this committee in the educational approaches in the field of mental hygiene. This report makes mention of the successful meeting recently held in Montgomery of the Alabama Society for Mental Hygiene, at which an act, dealing with the sterilisation of persons suffering with certain heritable diseases might be dealt with legally, was discussed and approved by this body.

Mention is also made of the gratifying progress made during the past year in the expansion of the physical facilities for hospitalisation of patients at the Bryce Hospital and Partlow School for the feeble-minded.

This report is entitled to the commendation and approval of the Association.

Approval was given the report.

7. FRACTURES AND FIRST AID

This report reveals that a steady and satisfactory progress has been made by this Committee in promoting educational programs through contacts made with many of the county medical societies of the state. Emphasis is placed in this report upon the importance of physicians, and particularly those interested in traumatic surgery, taking an active part in developing an educational program for certain lay groups, such as those who are to render a service through first-aid stations and to ambulance drivers, firemen and policemen.

This report is entitled to the approval of this Association, and the Board so recommends.

The Association approved the report of the Committee.

8. THE JAMES MARION SIMS MEMORIAL COMMITTEE

It will be recalled that two years ago this Association acted favourably upon a resolution in-

troduced by Dr. Seale Harris, Sr., creating a temporary committee within the organization to be known as the James Marion Sims Memorial Committee. The function of this Committee was to raise funds from the membership of this Association to develop plans for the erection on the Capitol grounds of a suitable monument to James Marion Sims, one of the South's most famous pioneer surgeons, and who did his early experimental work in the City of Montgomery. The Chairman of this Committee—Dr. James R. Garber—in a partial report submitted one year ago, recommended that all the funds which might be made available through the Association be used for the purpose of developing a Works Progress Administration project, thus making it possible to finance a memorial of which the entire profession of the state might be proud. This Board, in giving consideration to the report and the recommendations contained therein recommended to the Association that approval be given by it to the expenditure of an amount not to exceed \$1,000.00 from the savings of the Association's funds upon condition that the Committee raise, through subscriptions, at least \$1,500.00.

The results of the activities of this Committee during the past year are written into the beautiful, dignified and impressive bronze statue, which, on yesterday, with appropriate ceremony, was given over to the state.

For the splendid achievement and the untiring labour spent, the Board feels that this Committee is entitled to the commendation of this Association and it so recommends.

The Association commended the Committee for the results of its untiring labors.

SALARY OF THE TREASURER OF THE ASSOCIATION

Section 9 of Article XII of the Constitution of this Association reads as follows:

"The annual salary of the treasurer shall be fixed by ordinance of the Association."

The present annual salary of the Treasurer is \$400.00, paid as follows: \$300.00 from the funds of the Association and \$100.00 from the funds of the Journal account.

In view of the long, loyal and faithful services rendered this Association by its Treasurer, Dr. J. U. Ray, the Board recommends that the salary of the present incumbent be increased to \$600.00 annually to be paid as follows: \$400.00 from Association funds and \$200.00 from the Journal account.

The Association gave approval to this recommendation by the Board.

ABSTRACT JOURNAL IN CLINICAL MEDICINE

The Secretary of our Association has received a communication from the Medical Library Association regarding an abstract journal in clinical medicine, asking for an opinion. A Joint Committee to Investigate Problems of Indexing and Abstracting Services met in December 1938; its discussion emphasised the need for a comprehensive abstract journal covering clinical medicine and surgery including their specialties, and mentioned the possibility of the American Medical Association undertaking its publication. It was felt with sufficient interest on the part of state

medical associations the Board of Trustees would regard such a project favourably.

The Library Association points out that only large libraries can possess more than a small portion of the entire literature, and that some reliable abstract source for all the important clinical literature should be available to clinicians in every specialty, and that a comprehensive library edition covering all specialties might be issued, the pages on each particular subject being numbered separately and subscribed to separately by a specialist at much less cost than that of the entire publication. It was further mentioned that "Biological Abstracts" and the "Proceedings of the Royal Society of Medicine" are satisfactorily issued in this form.

The Library Association asks, if the Association approves of such a move, that a resolution be directed to the Board of Trustees of the American Medical Association, expressing such approval. copy to be sent to it, if resolution is mailed direct to the Board of Trustees.

The Board heartily endorses the contents of this communication, and if approved by the Association, it has instructed its Secretary to draft suitable resolutions to be sent to the parties mentioned in the resolution.

The Association endorsed the communication.

RESOLUTIONS

RESOLUTION BY DR. CANNON

"Whereas, An all-wise Providence has removed from The Medical Association of the State of Alabama, which he served so long and honorably, Dr. A. B. Coxwell, Vice-President of the South-western Division; and

"Whereas, In his passing the Association has lost one of its best loved members; therefore, be it

"Resolved, That The Medical Association of the State of Alabama express its sympathy to his family; and be it further

"Resolved, That a copy of this resolution be published in the Transactions of the Association and a copy furnished his family."

The Board in its review of the work of the Vice-Presidents made reference to the passing of Dr. Coxwell. It now recommends that this resolution be adopted.

The resolution was adopted by the Association.

RESOLUTION OF DR. JAMES R. GARBER

"Whereas, This Association, at its last annual meeting, instructed the State Board of Censors and the State Health Officer to draft suitable legislation to be presented to the 1939 Legislature to care for the health needs of this state in conformity to an expanded program to which this Association gave its full endorsement; and,

"Whereas, Important bills, dealing both with the present financial needs and other legislation of grave concern to the health of our people, are now before the Legislature for final action when it reconvenes in July; and,

"Whereas, The present annual state appropriation of \$430,000 to the health department is inadequate to care for the state's present health needs, representing a per capita expenditure of but fifteen cents (15c), as contrasted with the maxi-

munum appropriation for health in 1931 of \$686,000 or twenty-four and five-tenths cents (24.5c) per capita; therefore be it

"Resolved, That this Association go on record as giving full support and endorsement to House Bill 158, now in the Legislature, providing an annual increase of \$100,000 for general health work; and to House Bills 155 and 156 which provide additional financial participation, on the state's part, in an expanded program of tuberculosis control; and be it further

"Resolved, That the Governor and the Legislature be urged to have enacted into law these bills which this Association, as the legally constituted State Board of Health, deems necessary for the better protection of the public health."

These resolutions deal with certain bills which have been introduced into the Legislature bearing upon the financial needs of the health department.

House Bill 158 provides for an annual increase of \$100,000 to the present appropriation made by the state for general health work. More than a decade ago the Legislature, appreciating the great need and value for organized, efficient health work to cover every county in the state, made appropriations for this purpose on a gradually ascending scale. In 1931 this appropriation reached its maximum of six hundred eighty-six thousand dollars (\$686,000.00), which represented a per capita expenditure of twenty-four and five-tenths cents (24.5c) for health work in Alabama. Then came the financial crash which affected not only every individual, but every business and industrial enterprise including all government agencies—state, county and municipal.

The Legislature of 1932, confronted with a tremendous shrinkage of state revenues from all sources, was forced to retrench at every point. Consequently, the state's appropriation for all health work, exclusive of Pasteur treatments, was reduced from six hundred eighty-six thousand dollars (\$686,000.00) to four hundred thousand dollars (\$400,000.00) annually, representing a per capita expenditure of approximately fifteen cents (15c). Not only this, but the appropriation for health work was subject to proration, which meant that during the fiscal year 1933 only about two hundred fifty-five thousand dollars (\$255,000.00) were actually available for this purpose. During this period, no thought could be given to the expansion of county health work, and naturally the many activities conducted by the central organization had to be reduced to the point where but a bare skeleton remained.

In February 1936, through the provisions of the Social Security Act, federal funds were made available to states which enabled the health department to begin rebuilding its fences, both in the central organization and in the development of county health work. It must be remembered that most of this federal money has to be matched by the state. Furthermore, with the coming of the luxury and liquor taxes, the state's general funds, from which all appropriations to the health department are paid, as well as local health work in the counties, have been better stabilised. As a consequence, Alabama now has in each county

a health department giving at least some degree of health protection to the citizens of each of its counties. However, it must be remembered that such protection is but minimal and that there still exists need for a direct frontal attack, through concerted effort on the part of both central and local health organisations, to be made on many diseases which are now sapping the lives and destroying the efficiency of many of Alabama's citizens. In truth, if Alabama, and particularly rural Alabama, is to be lifted from the quagmire of destitution and poverty, there can be no more potent prying rod in the armamentarium of state government than an efficient health service reaching out into each and every county, properly manned, properly managed, and properly financed.

The outstanding health problems now confronting this state, and crying out most urgently for solution, lie in the realm of tuberculosis, the venereal diseases, malaria, child health and maternal care, and in the field of industrial hygiene. It is for the better control of these crippling, and to a large measure preventable, diseases that this Board and the State Health Officer, after a careful study of the present and future needs of this state in health work, have recommended for the earnest consideration of this Legislature that its present appropriation be increased by one hundred thousand dollars (\$100,000.00) annually during the next quadrennium. Such an increase would mean the expenditure of but eighteen cents (18c) per capita on the state's part, as compared with the present expenditure of fifteen cents (15c) per capita, and with the maximum appropriated in 1931 of twenty-four and five-tenths cents (24.5c) per capita.

With the existing organisation and machinery for doing public health work, which has been built up in this state over a period of more than twenty-five years, it is felt that such an additional investment on the state's part—for it should be viewed as an investment and not as a mere expenditure—will yield a rich return in the saving of life and the enhancing of the efficiency of its citizenship throughout the state.

House Bill 156 seeks to amend the original tuberculosis subsidy act passed in 1931 and further amended by the Legislature in 1935. The amendment of 1935 reduced the per diem allowance given to counties from one dollar (\$1.00) to seventy-five cents (75c) for each case cared for. This amendment further limited the amount appropriated by the state to seventy-five thousand dollars (\$75,000.00) a year. The present amendment seeks to restore the original provision of the 1931 act by allowing one dollar (\$1.00) per diem to counties for each case cared for, and by increasing the state appropriation annually from seventy-five thousand dollars (\$75,000.00) to one hundred thousand dollars (\$100,000.00) for the first year; one hundred fifty thousand dollars (\$150,000.00) for the second year; and two hundred thousand dollars (\$200,000.00) for the third year, or as much thereof as might be needed in order to put into effect the purposes of this bill. This bill further provides that counties may make use of their abandoned almshouses for the care

of certain selected cases of tuberculosis and thereby participate in the provisions of this bill to the extent of fifty cents (50c) per diem per patient.

The reason for this legislation is that the state has a definite responsibility in caring for its tuberculous population and that the counties alone cannot carry the entire burden. With this plan in full operation, it is felt that the counties will be in much better position to work out a solution of this problem, which, heretofore they have not been able to do. In the absence of a state-owned institution for the tuberculous, such as we now have for mental cases, this legislation seems most imperative. With the state's revenues increased through the sale and liquor taxes this obligation on the part of the state, which formerly could not be met, should now be promptly met.

House Bill 155 seeks to extend state-aid to counties up to twenty-five (25) per cent of the cost of construction to match twenty-five (25) per cent of local monies in the event that plans can be worked out for procuring from the Federal Government approximately fifty (50) per cent of the total cost of such construction. At many points over the state there is great need for a small institution to serve one or several counties, which counties are not yet able to finance fifty per cent of the cost; this bill seeks to provide aid to such counties from the state in the event that they can raise twenty-five per cent locally.

The bill provides that an appropriation of fifty thousand dollars (\$50,000.00) for the fiscal year 1939-1940 be made for this purpose, and a like amount of fifty thousand dollars (\$50,000.00) for the ensuing year 1940-1941. With this assistance provided it is felt that during the course of the next two years some eight or ten of these institutions might be erected.

The indications are that the Federal Government will extend this kind of aid to states badly in need of these hospital facilities and the provisions of this bill will aid counties in availing themselves of this opportunity.

The Board, therefore, recommends that this Association give unqualified endorsement to this resolution and that this Board be instructed to furnish copies to the Governor and to the members of the Legislature.

Unqualified endorsement was given this resolution by the Association.

RESOLUTION OF DR. W. M. SALTER

"Whereas, The State of Alabama has during its history produced a number of physicians who have contributed much to the advancement of the art and practice of medicine and surgery; and

"Whereas, Among those men there are names and achievements that are not only of state-wide influence but of national and international recognition; and

"Whereas, There have been no systematic measures taken for perpetuating their work, which would be an honor to their memory and an inspiration to those living and yet to live; therefore be it

"Resolved, That the President and Board of Censors of the Association be empowered and

urged to appoint a committee to devise ways and means for memorializing the illustrious dead of our profession; and be it further

"Resolved, That the Woman's Auxiliary of this Association be requested to appoint a similar committee to co-labor with the one named in the preceding section of this resolution."

The question brought up in this resolution was also brought to the attention of this Association by the President in his message. The Board is in entire sympathy with the sentiments expressed in this resolution and in its report has recommended to the Association steps which it felt should be taken in order to better preserve the history of this Association.

RESOLUTION OF DR. A. A. WALKER

"Whereas, The Army Medical Library and Museum, in Washington, is housed in an antiquated building which is in no wise fireproof; and

"Whereas, The Library comprises a vast collection of invaluable medical literature, some of which, if destroyed, could not possibly be replaced; and

"Whereas, The building now occupied is already overcrowded with books, limiting its usefulness for the broad purposes for which it was intended; now, therefore be it

"Resolved, That it is the sense of The Medical Association of the State of Alabama that the Secretary of War should submit a request for the necessary appropriation, approved by the Director of the Budget, for the construction of a new building for the Library and Museum; and be it further

"Resolved, That a copy of this resolution be sent by the Secretary of the Association to the President, the Secretary of War, the Director of the Budget, the Surgeon General of the Army and to every member of the Alabama congressional delegation."

The Board recommends that this Association give its hearty approval to this resolution and that the Secretary of the Association be instructed to send copies of same to the parties mentioned in the resolution.

The recommendation of the Board was adopted.

RESOLUTION OF DR. MERLE E. SMITH

"Whereas, There has never been any provision for hospitalization of the indigent in the State of Alabama and the private hospitals have had to assume what charity work it was possible for them to do at the expense of the private patients in the hospitals who have paid their bills; and since this charity load is growing larger and hospitals are very much in need of relief from this extra expense; and

"Whereas, Other states, namely Mississippi, Arkansas and Pennsylvania, have partially solved this problem of the indigent sick by providing a fund for subsidizing beds in private hospitals for hospitalization of the indigent sick and injured; and

"Whereas, This seems to be the most economical way of handling the indigent sick requiring hospitalization since the state would not have to go to the expense of building and maintaining large hospital plants; therefore, be it

"Resolved, That the Medical Association of the State of Alabama join with the Alabama Hospital Association and prepare and request the passage of some legislation at the next session of the Legislature in July that would make some provision for hospitalization of the indigent in this state."

The Board, quite mindful of the need in this state of more adequate hospital facilities for the indigent and near-indigent, approves the sentiments embraced in this resolution and recommends that this Association authorize this Board to select from its membership a subcommittee to cooperate with a like committee from the Alabama Hospital Association in carrying out the suggestions made in this resolution.

The Association approved the recommendation.

RESOLUTION BY DR. T. F. WICKLIFFE

"The eye, ear, nose and throat men of the Association request that a section for them be formed and hereby submit this as a resolution."

The Board, after giving careful consideration to this resolution and also to the important question which this resolution raises regarding the establishment of section meetings within the Association, recommends that this resolution be not concurred in.

The recommendation of the Board was adopted.

RESOLUTION BY DR. W. D. PARTLOW

"Whereas, It is becoming increasingly apparent that something must be done to meet the imperative need of hospitalization and modern medical care of the indigent and those of small incomes; and

"Whereas, This recognized need is being employed in some quarters as an argument for certain undesirable types of socialized or state medicine; and

"Whereas, It is the firm conviction of this body that the real medical need of the indigent is equipped hospitals and clinics rather than a radical change in the form of medical practice; and

"Whereas, In order to maintain and perpetuate the vital features of the long-established and honored profession of medicine, with its personal relationship between patient and physician, which is recognized as essential; and which status is being threatened by the trend toward socialized medicine; and

"Whereas, A careful study of the report of the House of Delegates of the American Medical Association as a whole reveals that it incorporates all those intangible things in the delivery of medical care for which organized medicine has so long contended and which, in truth, means far more to society than, at first blush, is realized; and

"Whereas, This Association believes the medical profession will remain true to its tradition of giving adequate medical care if the governmental agencies will provide hospitals and clinics or dispensaries; therefore be it

"Resolved, That this body give approval to the action by the House of Delegates in special session in September 1938, especially recommendation two dealing with expansion of hospital and clinic facilities; and be it further

"Resolved, That a copy of these resolutions be sent to the Secretary of the American Medical Association with the request that the organization adopt it or a similar set of resolutions."

The Board concurs in this resolution and recommends its adoption by the Association.

The resolution was adopted.

Part I of the Board's report, as amended, was adopted.

PART II

REPORT OF THE BOARD OF CENSORS AS A BOARD OF MEDICAL EXAMINERS

In this field of its activities the Board submits the following report:

Total number examined June 28-30, 1938.....	29
Total number examined January 3-5, 1939.....	1
Total number of certificates granted	30
Total number of pro forma certificates granted 49	
(a) By reciprocity with other states	47
(b) From the National Board of Medical	
Examiners	2

EXAMINATION APPLICANTS GRANTED CERTIFICATES OF QUALIFICATION

Adams, Montague S.	Maumenee, Alfred E., Jr.
Baar, Max E.	Merritt, Thomas E.
Baumhauer, Charles A.	Mueller, Harry L.
Blake, William A.	Noojin, Ray O., Jr.
Blank, William H.	Perry, Ezra B.
Cobb, John M.	Poole, William L.
Fryer, Douglas H.	Ragan, Charles J.
Haisten, Arnold S.	Riser, William H., Jr.
Harris, Reuben R.	Sanders, Elmer K.
Hingson, Robert A.	Simmons, John T.
Hunter, John W., Jr.	Thomas, Herbert H.
Irwin, Winston H.	Underwood, James W.
Jarvis, Jack R.	Walden, Joe D.
Jones, John A., Jr.	Watkins, Homer S.
Maddison, George E.	White, William E.

RECIPROCITY APPLICANTS RECEIVED APRIL 1938-APRIL 1939

Barber, Homer D.—Ga.	Feb. 20, '39
Brewer, Henry H., Colored—Kan.	July 27, '38
Broad, Walter J.—Mich.	May 9, '38
Brooks, James Otis—Tenn.	Jan. 12, '39
Brown, Hunter M.—La.	June 29, '38
Cherry, Alfred—Ohio	Sept. 15, '38
Cook, Ernest A.—Mich.	May 26, '38
Crittenden, Jack A.—La.	Oct. 19, '38
Crook, Charles S.—Md.	Oct. 15, '38
Curtis, Ward C.—Va.	July 5, '38
Dabbs, John W.—Md.	Apr. 1, '39
Day, Theodore P.—Ohio	Dec. 23, '38
Drake, Benjamin M.—Tenn.	Aug. 31, '38
Dupree, John W., Jr.—Ga.	Dec. 23, '38
Fatherree, Thomas J., Jr.—Minn.	Oct. 19, '38
Fowler, Hanes Mathew—Ind.	Feb. 2, '39
Frantz, William E.—La.	Mar. 7, '39
Frederick, Ralph H.—Tenn.	Aug. 27, '38
Gatsos, John D. A.—Ill.	Feb. 14, '39
Goff, William H.—Tenn.	Oct. 10, '38
Guyton, Thomas M.—Tenn.	June 27, '38
Jackson, B. Frank, Jr.—N. Y.	Mar. 3, '39

Johnson, Claud D.—Tenn.	July 5, '38
Jones, Wade A., Colored—Col.	Aug. 31, '38
Kennedy, William C., Jr.—N. Y.	Apr. 4, '38
Lamb, Roland D.—Tenn.	Apr. 1, '39
Lloyd, William K.—Va.	Nov. 18, '38
Long, Irl R.—Mo.	July 22, '38
Marler, Otis E.—Ohio	May 24, '38
McNabb, John T.—Tenn.	Apr. 18, '38
Meadows, Henry H., Jr.—Mo.	Sept. 7, '38
Morrow, Arch S.—N. B. M. E.	Mar. 23, '39
Newman, Leonce D.—La.	Mar. 20, '39
Niehuss, Charles E.—La.	Oct. 10, '38
Planck, Ernest H., Jr.—La.	June 9, '38
Quarles, Edgar B.—Va.	Jan. 19, '39
Rice, Alfred G.—Mo.	Oct. 19, '38
Rothermel, Robert E.—Pa.	Apr. 18, '38
Simpson, Wyatt C.—N. B. M. E.	Oct. 13, '38
Smith, Dayrel D.—La.	June 11, '38
Smith, James D.—N. Y.	Aug. 12, '38
Smith, Virgil D.—Okla.	Aug. 31, '38
Spitzberg, Randolph H.—Ark.	Oct. 13, '38
Stabler, Aubrey A.—S. C.	July 19, '38
Stewart, James J.—La.	June 23, '38
Summers, Thomas F.—Mo.	May 27, '38
Thompson, Clark H.—Mich.	Nov. 3, '38
Williamson, Byrn—Tenn.	Aug. 27, '38
Yelton, Chestley L.—Ky.	July 5, '38

GRADUATES OF EUROPEAN MEDICAL SCHOOLS

As might have been expected, because of the continued social unrest prevailing on the European Continent, the number of inquiries and applications for medical licensure in this state have materially increased during the past year. At the Association meeting of last year the Board reported the action which had been taken by it of having all graduates of European medical schools clear through the National Board of Medical Examiners and assigned its reasons for such action; and also of requiring of any foreign born applicant that at least first citizenship papers have been taken out. At a meeting held December 23, 1938 the Board modified the above requirement regarding citizenship to read as follows:

"In addition, a foreign born applicant will be required to present full citizenship papers."

Part II of the Board's report was approved as a whole.

PART III

REPORT OF THE BOARD OF CENSORS AS A STATE COMMITTEE OF PUBLIC HEALTH

J. N. Baker, M. D.
State Health Officer

To the Members of the Medical Association of the State of Alabama, Sitting as a State Board of Health:

I have the honour, as your health executive, to submit herewith my annual report covering the various activities of the health department during the past year, which, when approved by you, will constitute the department's official report to be transmitted to the Governor of this state. In the report now being submitted to you, effort was

made to briefly epitomise the principal activities and expansions of the department, thereby giving the interested reader the bare skeleton of the major and sundry activities engaged in by this department. A more detailed account, presented by the several administrative divisions, will later be incorporated and published in the annual report of the department.

TRENDS IN VITAL STATISTICS

Population: Alabama's population of to-day differs materially from that of yesterday, just as that of to-morrow will differ from that of to-day. Signs which portend the future are already in evidence. Although the population of the state is still predominantly rural, it is becoming less so with the passing years. About 60 years ago (1880), 95 of each 100 persons resided in rural territory; in 1930, the last year for which United States Census data are available, the figure had declined to approximately 72. To-day (1939), it is estimated that the percentage has decreased still further, and is now about 67 per cent, or two-thirds the record six decades ago. From 30 to 35 years hence, we shall have a distribution in which only one-half will reside in rural places.

Our population may be expected to increase in number, but not indefinitely; in fact, there are indications that perhaps within the short span of 30 years it will have reached its peak and begun to decline. If such an occurrence takes place, it will have been the result of natural phenomena. For many years the trend in the birth rate has been downward, both for white and colored, although the rate of decline has been much more rapid for the former than the latter. Records show that Alabama has lost more by emigration than she has gained by immigration. Unless some means are found to reverse the upward trend in the death rate, we shall inevitably experience population changes the effect of which upon our social and economic structure would be difficult to evaluate.

A much larger proportion of the population will consist of persons in the older age groups, fewer in the younger. One of the consequences will be lower school enrollment. Industry and business will have new social and economic problems to solve.

Births: In 1938, there were 62,945 births; the provisional birth rate (21.6 per 1,000 population) was slightly above the corresponding figure in each of the two preceding years, but less than that recorded in 1935.

Stillbirths: Stillbirths totalled 2,689; the provisional rate (41.0 per 1,000 total births) was the second lowest to be recorded in 16 years.

Deaths: There were 30,237 deaths and the provisional rate (10.4 per 1,000 population) was, with three exceptions, the lowest of record since 1925, thus reflecting one of the healthiest years of all time. Since 1933, the trend in the rate of mortality has been upward, both for white and colored.

Although the mortality rate is rising it has been higher in the past. Had the provisional rate of 1938 prevailed in 1925, there would have been 26,084 deaths recorded instead of 29,112. A sav-

ing of more than 3,000 lives would have resulted in a single year or a cumulative saving of 17,337 lives over the 12-year period (1926-1937).

Infant Deaths: Infant deaths numbered 3,829, the smallest number since Alabama was admitted to the United States Registration Area in 1925. The provisional death rate (60.8 per 1,000 live births) almost equalled the all time low record of 1932.

Deaths from Childhood Diseases: The picture presented in 1938 from this group of diseases was, in general, an unfavourable one. The rates for whooping cough (5.8 per 100,000 population) and from poliomyelitis (0.6) were lower than those recorded in the previous year. The diphtheria rate (3.6), while showing a slight increase over the all-time low rate of 1937 (3.4), was the second lowest of record. On the other hand, the rate for measles (5.8) has been higher only once during the past seven years. Scarlet fever, with a rate of 0.6, showed an increase over the three preceding years. Deaths from diarrhea and enteritis, under 2 years, increased between 2 and 3 per 100,000 population over the 1937 figure.

Deaths from Other Important Causes: The rate from tuberculosis, all forms, (55.1) reached an all-time low. Typhoid, with a rate of 2.0 per 100,000 population, while higher than the rate for 1937, was the second lowest of record; the malaria rate (7.6) was the same as that for 1937, the second lowest of record. The rates for influenza (25.7), nephritis (76.7) and homicide (17.0) were the lowest since Alabama was admitted to the United States Death Registration Area in 1925. Since that time, the death rate from appendicitis (10.1) has been lower only once. Although the rate for all puerperal causes (59.1 per 10,000 total births) was above that of the preceding year, it was the third lowest of record. The rates for cancer (57.1), syphilis (16.4), suicide (7.4), bronchitis (2.0), pneumonia (75.9), and motor vehicle deaths (20.3) were lower than they have been in several years. Although the rate (67.1) from accidents and external causes was below that recorded in each of the two preceding years, with these exceptions, it exceeded those recorded subsequent to 1929.

On the other side of the picture, the rates for diseases of the heart (166.6) and cerebral hemorrhage (76.9) reached an all-time high; that for diabetes (12.0) was the second highest of record. There were more deaths from pellagra per 100,000 population (11.9) than there have been since 1933.

RESEARCH STUDIES IN PUBLIC HEALTH

At this particular time and as never before, there is need, in the preventive health field, for the practices, policies and techniques employed to be sound, logical and workable; to have removed from them, so far as possible, through trial and error, through study and experimental approach, such practices as do not lend themselves to general application in health work. The interests alike of efficiency and economy prompt such an approach, if expanding health activities are to be kept off the rocks. For this reason, Alabama's health department has persistently sought to

elicit support of certain agencies interested in the advancement of modern public health. As a consequence, three foundations—the Rockefeller, the Commonwealth and the Rosenwald—and two governmental agencies—the United States Public Health Service and the Tennessee Valley Authority—are making important contributions not only in a financial way but also in furnishing trained technical personnel and consultative services for each study now in progress. During the past year the total amount thus contributed by these extra-state agencies exceeded eighty thousand dollars in research and investigative fields, which the health department, because of restricted funds and even though important, could not have undertaken alone. These investigations embrace activities in the following fields whose purposes and objectives were set forth by the State Health Officer in his 1938 report:

Tuberculosis: Two studies, begun in previous years, dealing with the epidemiologic aspects of this disease in a rural state and making somewhat different approaches in an effort to evolve sound practices for its control, are still under way. The following extracts from recent reports on these studies indicate their general scope and trend as well as the many interesting observations being made:

A

TUBERCULOSIS STUDY IN THE EAST ALABAMA HEALTH DISTRICT

Objectives

(a) To aid in the evaluation of the tuberculosis problem in each county by providing diagnostic service—designed to promote the educational program with physicians and laity, and to reduce the case load carried by the health department so that the available time may be devoted to the population groups most urgently in need of this service.

(b) By introducing a modification of previous procedures, allowing for reexamination of contacts with sputum-positive tuberculosis for a restricted period of time, hoping that the detection of secondary cases will be in their early stages.

(c) To aid in promoting a well-rounded control program to include provision of a district sanatorium, home isolation, portable cottage isolation, etc.

(d) To develop a correlated system of state and county records which will lend themselves to current analyses. To determine secondary incidence and factors which may modify it.

Progress

(a) Diagnostic clinics were held in all counties of the district utilising office and portable truck equipment facilities. The results are shown in summary form:

Persons examined	1,799	
Persons re-examined	151	
Persons examined—negative		
x-ray	1,480	82.3%
Persons examined—manifest		
pulmonary tuberculosis	117	6.5%
Minimal	21	18.0%
Moderately advanced	38	32.4%
Far advanced	58	49.6%
Sputum-positive	63	53.7%

Persons examined—manifest childhood tuberculosis	4	0.2%
Persons examined—non-pulmonary tuberculosis	3	0.2%
Persons examined—manifest arrested tuberculosis	67	3.7%
Persons examined—calcifications	127	7.1%

The intent of the original survey of tuberculous families in each county to classify and reduce the case load has been successful to a very satisfactory degree. The health departments, with the medical profession, have enthusiastically participated in this effort. For all families where the contact has been broken by death or removal of the patient for a period exceeding two years and no lesions are found in members of the family, further supervision is discontinued. This procedure is also used in families where the living case does not represent a probable source of spread, arrested case, non-pulmonary disease, etc. Those families which are to be carried under supervision during 1939 and subsequently are the ones where exposure to sputum-positive tuberculosis is present or has been present within the past two years.

(b) The re-examination of exposed persons in the selected group has not proceeded to the point which would justify the reporting of findings. The year 1939, however, should be productive of results in the discovery of secondary cases in the minimal stage if our program is correctly planned and executed.

(c) The enthusiasm which has been exhibited by the medical profession and lay public in tuberculosis control is evidenced by a successful culmination in the plans for a sanatorium available to the counties comprising the district. Construction was begun in 1938 on a forty-five bed institution for white and negro patients, and will be completed, equipped and in operation April 1, 1939. Chambers and Randolph Counties financed the Public Works Administration project and have extended an invitation to other counties of the area to participate and utilise the facilities.

Portable cottages are in use in four counties but are not used as extensively as they might or should be. Cost of construction, maintenance, difficulties experienced in persuading persons to live in them, and discovery of cases after exposure has already taken place in the family are the major reasons advanced. Home isolation in separate rooms, screened porches, etc., are the procedures of choice where sanatorium facilities are not readily available or where a patient is considered as ineligible for admission.

(d) New forms were developed for state diagnostic clinic procedures and for local county records. These, with a few minor modifications, were accepted by the State Health Department for general use after approximately one year's experience with them in the district. The collection of data is rather complete and will lend itself to analysis in 1939.

B

EPIDEMIOLOGIC STUDIES IN TUBERCULOSIS

Preliminary tabulations of the data collected indicate that damaging tuberculosis is five to ten

times more prevalent in Giles County, Tennessee, than in Coffee County, Alabama, and that general economic and dietary conditions average better in the former than in the latter and suggest that as yet unrecognised natural factors predominantly influence the tuberculosis situation in the two regions.

Special studies of solar radiation, including measurement of total daylight and ultra-violet rays, hygrothermographic recording of air temperature and humidity for correlation with ultra-violet radiation, intensive geologic surveys, chemical and physical studies of soils and chemical analyses of water and of locally produced foods of the two areas were carried on. Among findings to date are (1) significantly more total daylight, especially during the winter months, in Coffee County during the two years of observation and (2) a somewhat higher calcium and phosphorus content in certain vegetables from Giles County and higher content of other minerals, notably iron and sulphur, in those from Coffee County.

Bacteriologic studies of the virulence and other characteristics of tubercle bacilli from cases in Coffee and Giles Counties were started during the year, to determine if differences in the organism played a part in the regional distribution.

An x-ray and tuberculin survey of about 4,500 children in schools and of 6,500 adults and children who volunteered for examination in Coffee County and Giles County was completed. Both reactors and non-reactors to tuberculin were x-rayed and a total of 11,280 films were made.

In the course of the survey, differences in potency of several supposedly standardised tuberculin preparations were discovered and investigated. The results of these tuberculin studies and the findings of the x-raying and tuberculin testing in schools were reported at the annual meeting of the American Public Health Association (Lumsden, L. L., Dearing, W. P., and Brown, R. A.: Questionable Value of Skin Testing as a Means of Establishing an Epidemiological Index of Tuberculous Infection, *American Journal of Public Health*, Vol. 29, No. 1, January 1939).

In addition to supporting the indication from the mortality statistics that there is more damaging tuberculosis in the Giles County region than in the Coffee County region, the x-ray survey disclosed about fifty times as much intrathoracic calcification among children in Giles County as in Coffee County.

C

RABIES

This investigation has been in progress now two years and represents the most exhaustive scientific investigation yet undertaken regarding certain of the unsolved problems of rabies control both human and canine.

During 1938 this study expanded its activities rapidly. The mouse test for diagnosis received further confirmation and is now known to find about 12% of positives which were missed when using the microscope alone. The effect of dog vaccine has been studied experimentally and epidemiologically. Vaccinated dogs and control dogs were studied in the laboratory for susceptibility

to rabies virus given intramuscularly. Forty dogs have been studied to date, but sufficient time has not elapsed to allow definite conclusions. This series will be expanded to 200 dogs during the coming year.

Statistical studies on the state-wide vaccination program are summarised as follows: Of an estimated 450,000 dogs in the state, 220,000 were vaccinated in 1937, the first year of the law's operation and 134,191 in 1938. In 1938, 17,869 stray dogs were disposed of, nearly one-half of these being in Birmingham.

The rabies laboratory has carried on an extensive study of the susceptibility of stray dogs to rabies administered intramuscularly. Of 103 dogs so injected, about 60% succumbed by this method. Forty-one survivors were tested by intracerebral inoculation and even to this drastic method 40% are resistant though the incubation period has not elapsed in the majority of these. Resistance seems to be chiefly limited to those dogs recovering from a sickness resembling early rabies following their intramuscular inoculation. The clinical course of rabies in dogs has been carefully observed; furious rabies occurs in about 25% of those developing the disease. An occasional dog dies suddenly with rabies, showing no premonitory symptoms. The pathology of rabies in dogs is being studied in detail.

Extensive studies on immunity in injected stray dogs have been carried out. The neutralisation test as an index to resistance to rabies is being carefully studied, and results are interesting. Dogs surviving intramuscular infection almost invariably show a high neutralising titer; this is especially true of those surviving intracerebral inoculation. However, dogs succumbing to rabies also showed an increased antibody titer at time of death.

Several commercial canine vaccines have been repeatedly tested for living virus, and so far none has been found infective. The incidence of rabies in rats has been extensively studied in Montgomery and Birmingham, and none has been found infected. The growth of fixed rabies virus in tissue culture has been carried through 80 passages, but various strains of street virus have failed to grow. The rabies laboratory maintains a large mouse breeding colony, and for all its activities has had to greatly enlarge its animal quarters this past year.

THE EAST ALABAMA HEALTH DISTRICT

Arthur H. Graham, M. D., D. P. H.
Director

Administrative Practices: The East Alabama Health District was organized early in January 1938 with headquarters in Lee County at Opelika. This project was made possible by grants-in-aid from the Rockefeller Foundation and the Commonwealth Fund.

The district was created to permit an administrative study of certain problems considered to be of paramount importance in Alabama's health organization. Seven counties, with a population of 212,000, each with a full-time health department, comprise the district (Bullock, Chambers, Lee, Macon, Randolph, Russell and Tallapoosa).

Objectives

(a) *Provision of specialistic services to county health departments* in the fields of tuberculosis, venereal disease, infant and preschool hygiene, dental hygiene, environmental sanitation and lay-group education; to determine how each service can best be applied, its intensity, and the results which might reasonably be anticipated. These services are both advisory and consultant in nature.

(b) *To study and improve health practices and procedures:* Accurate appraisals of health problems in each county and to formulate a sound approach to their solution; all major health problems for the state exist within the district.

(c) *Training of personnel* requires that adequate facilities for observation of accepted health practices be made available. The district is being developed to meet this urgent need.

Listed below is the personnel of the district and their duties:

Miss Velma Owen	Nurse Field Adviser
Dr. J. B. Roberts	Pediatrician
Dr. S. H. Morrow	Dental Service
Dr. R. E. Rock	Venereal Disease Adviser
Mr. D. C. Keedy	Statistical Clerk
Dr. P. W. Auston	Tuberculosis Clinician
Miss Elma Taylor	Tuberculosis Clinic Nurse
Miss Mary Joe Renn	Secretary-Technician

COUNTY ORGANISATION

Douglas L. Cannon, B. Sc., M. D.
Director

Among other responsibilities, a division of county organisation must interest itself in efficient personnel for and equitable allotment of funds to the state's several county health departments. In order, therefore, that the Association may know what has been transpiring in these connections, this portion of the State Health Officer's report is divided into (1) training of personnel and (2) finance as they relate to county health work.

TRAINING OF PERSONNEL

In the year 1938, personnel was instructed both in the field and intramurally.

Field Instruction: Through the consultant services maintained by the State Department of Health, health officers, nurses, sanitation officers and secretaries were instructed in the details of their respective responsibilities, in program planning and execution, and in techniques—health officers through associates in county organisation (all former county health officers); nurses by nurse consultants operating out of the department's Division of Nursing; sanitation officers through district inspectors and engineers; and clerical personnel by the field secretary of the Division of County Organisation.

Further, these types of personnel, except secretaries, had available to them, for an insight into public health procedures at a central point, the department's field training station at Opelika. Newly employed health officers to the number of four were thus introduced to the organisation; and an equal number of sanitation officers. Dur-

ing the year no demands were made on the station for the training of nurses.

Intramural Instruction: Facilities of universities are used for more intensive theoretical teaching. In 1938 seven health officers were detailed to the School of Medicine of Vanderbilt University for postgraduate work lasting three months; and to the School of Engineering of the same institution, 17 sanitation officers. For a scholastic year's course, one health officer was assigned to Harvard and three to Johns Hopkins.

Short courses (three months) were made available to 18 nurses at Peabody; and to four Negro nurses in the Training School of the Medical College of Virginia. Two nurses engaged in two-semester courses at Teachers' College.

It is contemplated that most, if not all, of those who are future recipients of short-term study grants will receive a further detail to the Opelika set-up for the acquisition of field experience, and where theory can be put into practice.

Through these means, then, efficiency of staff members is being improved; and their vision widened beyond the horizon that might be their lot without such refresher courses.

FINANCE

Prior to 1928, a minimum local appropriation of \$5,000 was expected before a county could embark on full-time health work. As a consequence many of the poorer counties of the state found themselves unable to set aside funds for the purpose. In 1928 a plan was devised whereby counties were asked to appropriate in keeping with their ability to pay, the basis being \$500 on every million dollars worth of property as assessed for taxation. The arrangement resulted in the organization of all but ten counties, the International Health Division of the Rockefeller Foundation assisting the State Department of Health in creating an equalisation fund for use in several of the more impoverished counties whose taxable assets yielded but a small sum for public health.

On enactment of the sales tax and beverage tax legislation, all counties provided themselves with health departments—many of the then existing counties increasing their appropriations markedly. Others remained problems, though the number so considered is now but sixteen. In contrast, exclusive of the three large counties, 26 are appropriating from \$3,000 to \$4,999 annually; and 22, \$5,000 or more. In the last named category fall seven counties whose allotments for health service exceed \$7,000 per annum.

This financial growth (approximately \$120,000 more than before the enactment of this legislation referred to) has brought about an expansion in personnel, sorely needed to serve so large a rural population as that of Alabama. Further growth will be healthy since there yet remain several counties with but one nurse, and 14 without sanitation officers. However, it may be said that the year reflected a wholesome attitude on the part of county governing bodies toward the problems presented; and a willingness on the part of most of them to go as far in meeting them as they felt their means would permit.

It is needless to say that the year ended with

all sixty-seven county health departments intact and functioning, most of them with increased vigour and interest and more keenly alive to the benefits to be derived from full-time health protection.

DIVISION OF PUBLIC HEALTH EDUCATION

John M. Gibson, A. B., B. Lit.

Director

During the calendar year 1938 the Division of Public Health Education prepared and issued simultaneously to the two Montgomery daily newspapers, the Associated Press, the United Press and the International News Service a total of 463 different daily releases.

These formed the basis for 521 articles (exclusive of State Health Chats) published in the Montgomery Advertiser and the Alabama Journal alone. Lack of funds for subscriptions precluded the collection of data regarding the publication of these releases, through the Associated Press, the United Press and the International News Service, in the twenty daily papers in Alabama outside Montgomery, but such information as is available indicates that they were favourably received both by these news-gathering agencies and by the state's newspapers.

In addition to daily releases, equivalent in the aggregate to a larger-than-usual novel, the division has prepared, for exclusive syndication by the Associated Press, a weekly State Health Chat of about 250 words. These articles have been widely used by Associated Press newspapers in many parts of the state and have been commented upon editorially in a number of instances.

Fifty-five radio talks were prepared during the year. If these were printed in book form, they would constitute a volume of novel size. These were devoted, in the main, to the diseases and health problems of particular seriousness to the people of Alabama, but other aspects of the problem of public and individual health were by no means overlooked.

According to Mr. John B. DeMotte, Advertising and Sales Manager of Station WSFA, the daytime "listening in area" of this station includes 10 counties—Montgomery, Butler, Lowndes, Elmore, Bullock, Autauga, Macon, Crenshaw, Pike and Covington—in which every radio receiving set can easily pick up WSFA; eight counties—Coosa, Tallapoosa, Lee, Wilcox, Monroe, Conecuh, Coffee and Barbour—in which WSFA has approximately fifty per cent of "listener attention"; and three counties—Dallas, Chilton and Russell—in which one-fourth of the radio sets are near enough to Montgomery to permit their owners to listen to WSFA programs during the daylight hours. It is estimated that the weekly "Health Is Wealth" broadcasts of the State Department of Health and the other daytime programs broadcast from this station can be heard in a total of 45,975 Alabama homes affording a potential audience of 183,900, or 122 times the seating capacity of Montgomery's Paramount Theatre, 15 times the seating capacity of Cramton Bowl, or two and one-half times the population of the City of Montgomery. What percentage of this potential audience is

reached by the weekly "Health Is Wealth" broadcasts is of course a matter of conjecture.

During the year the division cooperated with the Works Progress Administration and the Alabama Tuberculosis Association in the state-wide public health education program of which the State Department of Health is co-sponsor. Seventeen brief talks by the State Health Officer were electrically transcribed on master records for retranscription on other discs, with appropriate music, for broadcasting through a number of radio stations in various parts of the state. Program directors of a number of these stations have expressed themselves as well pleased with the manner in which these transcriptions have been received by their hearers. Arrangements have been completed for the making of transcriptions of full-length 15-minute radio talks for similar broadcasting.

Also in cooperation with the Works Progress Administration and the Alabama Tuberculosis Association, the division prepared the script for the talking strip film, "Alabama's Health." This film, depicting the activities of the State Department of Health and the results of its long campaign in behalf of improved health conditions, requires about 15 minutes to show and contains approximately seventy pictures, diagrams, charts, etc. The director of the division has aided in the making of some of these pictures, specifically those made in Montgomery. This is now available for use by county health departments and other groups desiring to use it as a means of informing the people of the community regarding public health activities in the state.

Twenty-three State Health Chats were reprinted in booklet form for general distribution to those wishing information on health matters. The original supply of 1,000 copies has been exhausted and a new supply of 2,000 copies ordered.

Other 1938 activities of this division included the preparation of six non-radio talks, a special report on Alabama health conditions for the State Chamber of Commerce and fifteen book reviews and articles for the Journal of the Medical Association of the State of Alabama.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., D. P. H.

Director

EPIDEMIOLOGY

On the whole, the health record of Alabama during 1938, as far as the communicable diseases were concerned, was quite good, although there were some increases from the low points registered in 1937.

Typhoid Fever, for example, increased in reported cases from 317 to 403. This figure is the second lowest on record, but it emphasizes the necessity of continued efforts if further recessions are to be avoided.

Diphtheria, while well below average, was more prevalent than in 1936 or 1937. All the increase can be accounted for by one extensive epidemic in Madison County with more than 150 cases. These cases were very largely rural and nearly all in

children without previous immunization. Programs that do not reach isolated communities leave danger spots where the introduction of infection results in explosive epidemics. Studies as to the immunity status of Alabama children were continued, as well as studies as to the carrier status of school children. Apparently there are many more carriers of virulent diphtheria organisms in the school population of this state than is true of northern states and the high diphtheria incidence in the South is probably traceable to this factor.

There was an increase in the amount of *Malaria* reported, with much of this increase occurring in the Tennessee Valley counties. Increased malaria activities may have been responsible for increased reporting rather than a true rise in incidence. The experimental studies as to the efficacy of atabrine as a malaria prophylactic were continued and the results would indicate that clinical attacks of this disease may be prevented by the routine administration of this drug.

The state-wide survey of *Intestinal Parasites* was completed and the results published. Of 253,630 individuals examined 15.3% showed the presence of hookworms. One and one-tenth (1.1%) showed ascariis; 1.4% taenia nana, while trichuris trichiura was almost absent. The distribution of infection by counties and schools in each county was mapped as a guide in control measures.

Meningitis in Jefferson County continued at a high level, although there was evidence that it had about completed its cycle and that the peak incidence had been passed. *Measles* paid one of its periodic visits to the state and swept over most of the counties. *Influenza* was at a low ebb and pneumonia also showed a reduction. In an effort to be of some assistance in the treatment of *Pneumonia* the routine typing of pneumonia sputum was inaugurated late in 1937 in all the laboratory system and was available throughout the last year.

Pellagra, which has been endemic in the state for years, received fresh attention from the work on nicotinic acid in its treatment and prevention. Dr. Tom Spies, working in Jefferson County, found an astounding number of cases and has reported excellent results from nicotinic acid. Thus a new weapon has been added to the medical armamentarium. Further studies are necessary to determine the actual incidence of this disease and its relationship to general nutrition.

DIVISION OF VENEREAL DISEASES

W. H. Y. Smith, M. D., C. M., C. P. H., Director
W. J. Broad, M. D., C. P. H., and R. E. Rock, M. D.,
D. P. H., Clinicians

During the year 1938 there were reported 22,405 new cases of syphilis, a rate of 7.69 per 1,000; 3,620 new cases of gonorrhea, a rate of 1.24 per 1,000, and 100 new cases of chancroid, a rate of 0.034 per 1,000. In comparison with 1937, this represents a 36.7 per cent increase in the reporting of new cases of syphilis and a 20.4 per cent decrease in the reporting of new cases of gonorrhea. The increase in the new cases of syphilis

was much higher in the colored race than the white. In 1937 the rate per 1,000 population was 2.09 for the white race and 11.55 for the colored, whereas, in 1938, it was 2.34 for the white race and 16.69 for the colored. Gonorrhea is very poorly reported from year to year and the decrease in the rate for this year does not mean a decrease in the prevalence of gonorrhea, but merely a greater inadequacy of reporting new cases. Of the cases that were reported as to stage, 25.36 per cent of syphilis were in the primary and secondary stages, and 98.09 per cent of gonorrhea were in the acute stage.

Free drugs for the treatment of syphilis were distributed to the physicians throughout the state. Sulphanilamide for the treatment of gonorrhea was supplied free to one clinic in an attempt to judge the advisability of supplying this drug routinely. There were 224,191 doses (0.6 gm.) of neoarsphenamine, 240,690 cc. of bismuth preparation, 12,630 cc. of mercury benzoate, and 3,600 mercurettes distributed. The monthly average number of patients treatment for syphilis was 8,256 and the monthly average number of treatments given was 29,304.

There were fifty-six counties operating ninety-two free or part-pay clinics in the state during the year. Thirty-eight of these clinics in seventeen counties were organized in 1938.

Epidemiologic investigations were made in nine counties. Source and spread contacts numbering 1,087 were found from the investigation of 2,949 cases of syphilis and gonorrhea. Of these contacts, 186 were found positive on examination and 178 of these positive contacts were brought under treatment. Of the 2,502 lapsed cases reported, 1,297 were returned to treatment. Investigative work is being spread to other counties and it is hoped that all counties operating venereal disease clinics will make epidemiologic investigations a part of the venereal disease control program.

Education in venereal diseases has been stressed. Talks have been given and talking pictures shown to a variety of audiences. The division co-operated in a syphilis educational week in Selma, Anniston and Bessemer.

DIVISION OF TUBERCULOSIS CONTROL

Holland Thompson, M. D., C. J. Westover, M. D.
A. G. Rice, M. D., and P. W. Austin, M. D.,
Clinicians

A much brighter finale precedes the drop of the curtain on the drama of tuberculosis as regards Alabama in 1938 than in years past.

The provisional report of deaths from tuberculosis as issued by the Bureau of Vital Statistics for the past year shows 1,604 succumbed to this disease, this being 182 less than died in 1937. Between these few terse lines very encouraging interpretations and deductions can be made.

No longer can the national finger of accusation be leveled at Alabama for ineffectually circumscribing and getting in order its house as regards tuberculosis. By the time this report is off the press and before the printer's ink has dried upon it, a new forty-bed tuberculosis sanatorium will be operating in LaFayette, the consummated con-

tribution of both Randolph and Chambers Counties to this problem. Furthermore, the Morgan County Sanatorium will have been increased so that sixty patients can be cared for in this high death rate area of the Tennessee Valley where formerly thirty patients taxed its capacity. A stone structure is now in course of construction under a WPA grant at the Jefferson County Sanatorium, which, when completed, will accommodate thirty colored patients.

In fifty-three of the rural counties of the state the traveling chest clinic with its portable x-ray made 4,930 examinations, of which 535 were interpreted as being positive for pulmonary tuberculosis, while 241 others carried a diagnosis of suspicion, the final decision of which must await on continued observation and physical examinations to further properly classify and diagnose. Of the positive diagnoses, 171 were classified as far advanced; 151 as moderately advanced, and 158 as minimal.

Records reveal that 1,244 different Alabama physicians referred these patients to the clinic and the findings in many of these cases helped not only to clarify the diagnosis but to identify many non-tuberculous lung conditions, which might otherwise have been carried as pulmonary tuberculosis, thus eliminating the unnecessary stigmata and social ostracism which so often accompanies the public recognition of a person having this disease. In no minor degree is this diagnostic service rendering the public, the physicians, and, finally, the Bureau of Vital Statistics an immeasurable benefit and in turn placing an ever truer picture of the tuberculosis situation in Alabama before the national bodies which have heretofore been inclined to ascribe a much darker and much more exaggerated picture than really exists here.

The fourteen counties which are not included in the above statistics and in which our traveling unit does not visit are mainly the urban counties for which five regional tuberculosis specialists, three of whom are under this division, are combining their duties as physicians in charge of sanatoria with operation of diagnostic clinics in these and immediately adjacent counties, which naturally accounts for many additional x-ray examinations and clarifying interpretations not a part of the record of the traveling clinic.

The Susie Parker Stringfellow Memorial Hospital in Calhoun County and the Etowah County Sanatorium at Anniston and Gadsden, respectively, are now both operating with a very creditable turnover of cases being sent back to their homes, either under treatment or as arrested cases that are non-infectious and of no further danger to their families or communities, a factor of inestimable value from the social service standpoint.

A most energizing factor behind this great stimulus toward the proper handling of our tuberculosis problem has been the state subsidy of 75c per day per patient during their hospitalization, made operative late in 1937 and operating smoothly and without interruption during 1938.

The epidemiologic survey being carried on into its third year in Coffee County, Alabama, and in Giles County, Tennessee, by the United States

Public Health Service, is unearthing some valuable information and at the same time finding ever greater problems not previously dreamed of which is attracting the attention of nationally known authorities to this state. Extensive x-ray surveys have been carried on by this service in a number of our counties during the past year.

DIVISION OF INDUSTRIAL HYGIENE

John R. Cain, M. D., Director

Dr. William F. Queen, who inaugurated the work of the Division of Industrial Hygiene, resigned during the year and since the division had no other personnel there was a cessation of activities until a new director was obtained. A survey of industry to determine the nature and scope of the occupational disease problem had previously been conducted by the division alone, but it was apparent that some other means was necessary to reach effectively all parts of the state. The integration of industrial hygiene into the programs of the county health departments seemed a logical undertaking and steps were taken by the new director to inaugurate such a program.

The industrial hygiene program has been strengthened through the cooperation of county health departments with the central office. After careful consideration, a plan of operation suitable for use with a limited state personnel was adopted and actual field work begun during the first week of November. The preliminary work included 416 man-hour lectures given to four groups, each composed of health officers and sanitation officers from eight counties. Satisfactory progress was made toward the motivation and provision of an educational background for all participating field forces.

In the central office, plans were worked out for coding, filing and cross-indexing a good many of the pamphlets, bulletins, abstracts and papers that had accumulated prior to the change in directorship on October 15th. These references, together with various industrial reports explaining manufacturing processes, materials used and the nature of the job, have been made available and loaned to the county departments as the occasion demanded.

Following the preliminary study period, one or more practical demonstrations of an actual plant analysis was made for the benefit of the personnel of each county department. Though this report only covers the last two months of the year, it is gratifying to learn that fifty-five plants with a total working population of 10,003 were surveyed and detailed reports committed to record. This involved 453 work rooms with special attention to the sanitary, medical and safety provisions of each room. It further involved a detailed explanation of 374 different occupations as performed in the mining, textile, lumber, iron, steel and chemical industries, as well as food manufacturing and domestic service groups.

The personnel of nineteen counties, including Barbour, Bibb, Calhoun, Chilton, Coffee, Coosa, Dale, Dallas, DeKalb, Etowah, Houston, Lee, Marshall, Montgomery, Pike, Randolph, Russell, Talladega and Tallapoosa, participated.

From the above, it will be noted that the nu-

cleus for a state-wide adult health program, focussed upon that group with the highest morbidity and mortality rates, has germinated and grown within a two months' period to include more than one-third of the state. Once completely organized, with well informed personnel in each county, it becomes the duty of this department to appraise the nature and extent of exposures to industrial dusts, gases, fumes, skin irritants and poisons. The surveys thus far completed and the activities already engaged in clearly indicate the need for additional personnel for this division, particularly a chemical engineer and a trained office assistant, in order to round out a proper functioning industrial hygiene unit.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D.

Director

During the year 1938 the Bureau of Laboratories made definite progress in several directions. For the most part this was along the line of revision of procedures so as to bring our methods of specimen examination into accord with recent additions to knowledge. To accomplish this some radical changes in methods were necessary, and certain essential pieces of equipment were acquired.

Diagnostic Division

During the calendar year 1938 there were 375,882 specimens examined in the Bureau of Laboratories, or 11,535 fewer than in 1937. Losses in the number of specimens examined occurred in the cases of diphtheria, protozoan infections (malaria), intestinal parasites, rabies, meningitis, and in those classified under the heading of miscellaneous examinations.

The greatest loss in specimens occurred in the case of examinations for intestinal parasites; in 1937, 108,963 of these specimens were received as contrasted with 42,422 in 1938—a loss of 66,541 examinations. Offhand it might be concluded that this indicated a loss of interest in this type of examination. Such is not the case, however, as it is believed that the 1938 figure represents more nearly the number of specimens of this sort that may be expected from year to year, as the 1937 figure is unduly large because of the completion during that year of a state-wide hookworm survey.

Gains in specimens examined occurred in Vincent's infections, pneumococcus typings, enteric infections, the various agglutination tests, tests for syphilis, gonorrhea, tuberculosis, water and milk tests, and food poisoning examinations.

The greatest gain in specimens examined was in serodiagnostic tests for syphilis. In 1937, 140,383 specimens of this type were received, whereas, in 1938, 187,248 were handled—a gain of 46,865 tests—an obvious reflection of the campaign against the disease.

In 1937 two new procedures were introduced, namely, the Neufeld method of typing pneumococci and the darkfield examination for evidence of syphilis, so 1938 was the first full year of experience with these tests.

During 1938 sputum for pneumococcus typing

was submitted from 331 suspected cases of lobar pneumonia. In 184 of the cases the serologic type of the infecting organism was determined and it was found that Type I infections were twice as common as any other, while Types III, VII and VIII occurred with about equal frequency, but only about half as commonly as Type I.

In connection with the tests for syphilis it seems fitting to call attention to the slight use that is being made of the darkfield examination. During 1938 only 310 specimens of serous exudates from primary lesions were submitted to the laboratory for examination. In one laboratory no single examination of this sort was made during the year, and in only two laboratories—Montgomery and Birmingham—were more than 16 specimens received.

This experience would seem to indicate a lack of understanding of the value of this test in establishing an early diagnosis in syphilis and offers slight justification for the very considerable investment in equipment that has been made.

In an analysis of all the specimens examined in all the laboratories during 1938 a rough grouping may be made on the basis of sanitary and diagnostic examinations; the sanitary examinations are those of water and milk and the diagnostic examinations are all the remainder. Grouped in this way it is evident that 89.4% of all specimens received were of the diagnostic type, while only 10.6% were of the sanitary type.

Breaking down the total figures of examinations made in the Bureau of Laboratories and contrasting the serodiagnostic tests for syphilis with the balance of the routine diagnostic work in the laboratories, it appears that tests for syphilis constitute from 40 to 60 per cent of the work in the various laboratories, and for the combined laboratories constituted 49.8 per cent of all the work.

Biologic Division

During 1938 the Biologic Division prepared and sent out for use the following products, in the amounts indicated.

Typhoid vaccine	601,830 cc.
Diphtheria toxoid	105,300 cc.
Schick toxin	5,812 cc.
Mercury benzoate	13,490 cc.
Sterile distilled water	1,520,850 cc.
Sterile normal saline	82,647 cc.
Silver nitrate ampules	53,700
Rabies treatments	2,775

The value of the above products, which were actually manufactured in the Biologic Division, had they been purchased from a commercial manufacturer at state prices, is shown below:

PRODUCT	Amt. Prepared And Distributed	Cost If Purchase Had Been Made At State Price	Unit Cost
Rabies vaccine	2,775 treatments	\$16,650.00	\$6.00 per treatment
Typhoid vaccine	601,830 cc.	24,074.00	2.00 per vial (50 cc.)
Alum-prec. toxoid	105,300 cc.	7,897.50	.75 per vial (10 cc.)
Schick test	5,812 cc.	1,453.00	.50 per vial (2 cc.)
Sterile normal saline	82,647 cc.	326.40	.67 per vial (20 cc.)
Sterile distilled water	1,520,850 cc.	9,124.50	1.50 per pkge. (250 cc.)
Silver nitrate ampules	53,700	1,074.00	.02 per amp.
Total cost		\$61,099.40	

From these figures it will be seen that the appropriation of \$30,000.00 allowed for the operation of the Biologic Division enabled us to prepare and distribute for use products that would have cost the State of Alabama \$61,099.40 had they been purchased on the open market at the most favorable prices.

The greatest increase in demand for a product prepared in the Biologic Division was in the case of sterile distilled water for use in the field of venereal disease control. In 1936, 274,350 cc. were prepared; in 1937, 673,950 cc. were distributed; and in 1938, the amount was 1,520,850 cc.

In connection with the distribution of distilled water it should be remembered that the product is furnished gratis, but that the cost to the state is not inconsiderable when the cost of bottles, stoppers and shipping charges and containers is estimated. A conservative figure covering these items would be \$5,000.00 per year so there is ample justification for the plea that the empty containers be returned to the Department of Health for further use. At present the loss of bottles exceeds 50 per cent.

Research Activities

During 1938 the Bureau of Laboratories again participated in the Evaluation Study of Serodiagnostic Tests for Syphilis conducted by the U. S. Public Health Service. In this study 45 laboratories took part and were rated as to sensitivity and specificity of the procedures employed. The Alabama rating was 72.9% in sensitivity and 98.9% in specificity in the complement fixation procedure as compared to 81.9% and 100.0% for sensitivity and specificity, respectively, in the highest rating laboratory evaluated. On the other hand, our rating in the Kahn flocculation procedure was 73.9% in sensitivity and 100.0% in specificity as compared with 83.5% and 100.0%, respectively, in the laboratory having the highest rating.

For several weeks during the summer of 1939 the laboratory loaned a member of the staff to the Bureau of Preventable Diseases to assist in the collection of blood specimens in the continuation of a malaria survey in Macon County. As a result of this activity, some 4,800 blood films were examined in the Bureau of Laboratories.

During the fall of 1938 the laboratory again took part in the study of diphtheria being made in Randolph and Shelby Counties by Dr. Gill, for the Diphtheria Committee of the American Public Health Association. This study involved the examination of 1,800 throat cultures micro-

scopically, followed by plating-out of the cultures. isolation of the diphthomorphic organisms, cultural identification of the isolations and virulence testing of those cultures that proved to be *C. diphtheriae*.

During the year the laboratory cooperated with Dr. Oleson, of the National Institute of Health, in the examination of a considerable number of tuberculous sputa. These sputa were to be used by Dr. Oleson in a study of the geographic distribution of the different types of pathogenic acid-fast organisms.

The Bureau of Laboratories also cooperated with the Division of Inspection of the Bureau of Sanitation in a study of the effectiveness of the Westinghouse Sterilamp. These experiments were designed to show the effectiveness of the rays from this lamp in killing bacteria as the apparatus has been widely sold for use in sterilization of dishes and drinking glasses in drug stores.

For several weeks during the year the laboratory cooperated with Dr. Gilliam of the National Institute of Health in his study of the distribution of diphtheria-like organisms in the lower animals. As the result of this investigation considerable information was acquired relative to the distribution of these organisms in various animal hosts.

In the course of efforts directed toward the evaluation of various procedures for the recovery of enteric group organisms, the laboratory studied several hundred stool specimens from an outbreak of enteric infection in Chambers County and a large group of food handlers in Mobile County. In the course of this work several carriers of enteric group organisms were discovered.

The most significant research carried out in the Bureau of Laboratories during the year was that conducted by Dr. Erb Na Bangxang, a candidate for the degree of Doctor of Public Health in the School of Hygiene of the Johns Hopkins University. Dr. Bangxang spent seven months in this laboratory working on a preservative to be used in the collection of stool specimens to be examined for dysentery bacilli. As the result of his efforts a combination of sodium desoxycholate and sodium citrate, in solution in physiologic saline, was worked out which gives every indication of being satisfactory. At any rate stool specimens known to contain dysentery bacilli, when added to this solution, have yielded the organism as long as three weeks after inoculation.

In limited field trials, where the stools have been added to the preservative by the physician and the specimens then mailed to the laboratory, efforts at isolation of the dysentery organisms have also been successful.

It would thus appear that we might proceed with a study of epidemic and endemic dysentery with every expectation of success, as we are no longer handicapped by the necessity of rapid transportation of the specimen to the laboratory.

During the year the Bureau of Laboratories again loaned a member of the staff to the Tennessee Valley Authority to assist in the examination of malaria slides. This worker was on detached service for approximately four months.

SANITATION

A

DIVISION OF ENGINEERING

G. H. Hazlehurst, C. E., M. C. E.,
Chief Engineer and Director

Merely to state that the Bureau of Sanitation embraces those phases of health work which deal with disease through environment does not give a clear concept of all of its activities. It has direct duties in connection with many aspects of our living, as public water supplies, sewerage systems, privies, milk and milk products, beverages and food, shellfish, hotels, malaria, and typhus control. Some of this work is done directly through its own personnel, while much of it is integrated through the county health departments. It has an intimate working relationship with the administrative activities of the State Department of Health and is the fountainhead from which springs much of the regulatory law and interpretation. With such varied functions and procedures the character of personnel requirement is such that the Bureau is composed of divisions, the activities of each being coordinated through one director. The two main divisions are those of engineering and inspection, with a third kindred activity functioning in the field of typhus control.

Water Supply

In the field of water supply the state is in a continuing phase of expansion and improvement. The same can be said of sewerage facilities. These added and much improved services will have a decidedly cumulative effect on the reduction of enteric diseases throughout the state. For water plants and systems the cities expended or contracted for \$1,372,000 during 1938. Existing plants were improved and their product checked throughout the year by regular scheduled analyses and field visits.

During the past year, a special survey has been made of twenty-nine plants in Jefferson County and an engineer assigned for several months for the purpose of securing plant improvement. The county subsequently employed a full-time public health engineer. Supplies of interstate carriers were supervised as usual.

Sewerage

During the year the trend continued toward the construction of sewer systems in municipalities of the smaller population group. The larger towns and cities continued programs of extending, repairing, and improving their sewage-carrying systems. The monetary value of work done and that checked through the bureau for construction was \$1,311,000. Field checks of plants and systems were made to the number of 140.

Privies, Septic Tanks, and Sewer Connections

In lieu of sewer service in municipalities and in rural areas where sewers are not available, septic tanks and pit privies are necessary in order to protect against hookworm and enteric diseases. Fifty-three counties employed personnel to carry on this phase of public health work, which resulted in 130,000 persons being provided with effective feces disposal facilities.

In the strictly rural field a second agency, the

Federal Farm Security Administration, was operating in cooperation with this department. Nearly six thousand families were provided with sanitary privies. These installations are specially significant, as they represent many which otherwise could not have been secured, due to the economic status of those persons.

In the field of sanitation the WPA played a large role. This year probably represents the peak of its participation.

The volume of sanitation of all types was the greatest since 1929; also, the largest number of counties in the history of the organization were operating with sanitation officers of their own. In addition there has been a constant improvement in sanitation officer service in all phases of this activity. This has been brought about by better service to him through the central organization, better qualified personnel placement, and increased educational facilities through field training and also intramural training at Vanderbilt University.

Malaria Control

If malaria control is to ultimately succeed in the state, it must come through county governmental organization and participation.

The recent popular vote in Limestone County was a temporary setback in this connection, as the decision of the people prevented malaria from being combated on a county-wide basis, rather than having it viewed as a purely local problem. However, nine counties are already being prepared for such organized action through an engineering analysis of their physical problems.

In the thirty-three counties where drainage work is being done through WPA, the amount of work accomplished was greater than in any other calendar year, due to a large number of laborers being made available. It is estimated that this work will affect 166,000 persons. An additional volume of work, due to change of WPA policies, was thrown on the bureau.

An unusual increase in the number of small artificial lakes during the year occurred, due to the efforts to increase the farmers' income through fish production. Major impoundages were created by the TVA and the Birmingham Industrial Water Supply. Work was done on some of the old impoundages looking to better operation of these areas.

The mosquito-proofing of approximately 100 houses in each of two counties where malaria was especially prevalent was carried out through co-operative contracts, for the purpose both of added protection and of studying and evaluating this method of malaria control.

An investigation of malaria prevalence has been started in Decatur and Guntersville, results of which will be available in 1939.

General survey of municipalities to aid in anti-mosquito work was continued, as were the development and advancement of personnel through visits to work under way in other states.

Typhus Fever Control

This activity has depended upon WPA support to a greater extent than any other. It has made

constant progress but is now on the verge of collapse through a withdrawal of certain elements of that support.

The past year saw rat-extermination and rat-proofing work carried out in fifteen counties. It has been demonstrated that the disease can be controlled in a very large measure. A forty per cent reduction was noted in counties where these projects have been operated. Investigations seem to indicate that both the virulence and incidence of the disease are increasing in the infected areas where control methods have not been applied. Expenditures by the WPA have amounted to \$110,000, with communities and citizens furnishing \$33,000.

B

DIVISION OF INSPECTION

C. A. Abele, Ch.E.
Director

The normal activities of the division were carried on in reference to shellfish sanitation and interstate shipments, hotels, and beverages.

Food Control

In the matter of food sanitation unusual progress has been made through the issuance of privilege licenses to food establishments upon the presentation by the applicant for permits from the county health officer. This system was effectuated in forty counties. It gave positive control to the county health departments and as a by-product eliminated fifteen per cent of border line establishments where enforcement of the regulations was most difficult. The regulations were amplified by interpretation which tended to uniformity of application. Much cleaner and better equipped establishments with clearer operations have resulted.

Extension of Food Control

During 1939 the application of these regulations is to be extended to counties in which the health departments are without sanitation officers, if it is found that state personnel can be made available for the necessary work. It is anticipated that food manufacturers engaged in inter-county business will be placed under the permit system, not only as a protection to the public but as a protection to those counties which so regulate their local establishments. This activity of state personnel must necessarily take priority over work in counties deficient in sanitation personnel.

Milk control was extended to three cities and restored to one on the basis of voluntary grading.

The use of the phosphatase test for the degree of pasteurization of milk has been experimented with and will be made a routine test for pasteurized milk if its conduct in the field, by local inspectors, proves practical.

Continued efforts have been made to aid the dairymen and stimulate the industry. The matter of possible widening of the market through frozen shipments with special reference to Puerto Rico is being considered in cooperation with the State Department of Agriculture.

Milk Control is complicated and tedious, requiring an abnormal proportion of time in relation to

many other activities. With limited county and state personnel and little uniformity as to local producing conditions, a satisfactory solution to the problem has not as yet been secured. It is expected that a reappraisal will be made, when personnel can be released from activities now absorbing their full time.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D.
Director

DIVISION OF MATERNAL HYGIENE

Eva F. Dodge, M. D.
Associate in Charge

Forty-one maternity clinic centers were conducted in seventeen counties with one hundred-thirty clinics being held each month. Sixty-eight local physicians participated in conducting these clinics and were paid \$4.00 to \$5.00 per clinic session except in Cullman County where no compensation was paid. Increased interest in maternity service was noted during the year.

These maternity clinics had a stimulating effect upon both the physicians and the lay people in increasing their interest in prenatal, delivery, and postnatal services. Lay participation was encouraged in sponsoring and assisting in the maternity clinics. Lay groups assisted by securing space for the clinics, purchasing equipment and doing clerical work.

Efforts will be made to establish additional maternity clinics in those counties where the medical profession manifests an interest, local participation can be received and an average of five or more maternity cases will attend each clinic session. In those clinics where an average of less than five maternity visits are made to each clinic session over a period of three months such clinic does not seem justified.

Prevention of Cancer

The obstetrician continued to serve as secretary to the Association's Committee on Prevention of Cancer. She assisted in the survey of facilities for treating cancer in Alabama. Increasing interest was shown by the physicians and lay people in the prevention and treatment of cancer as evidenced by the number of county medical societies and lay groups who conducted programs on cancer. Active cancer control committees were appointed in many counties to cooperate with the Women's Field Army in the campaign on cancer control.

The obstetrician made 35 talks to 2,764 lay people on cancer control and maternal welfare. She made 117 visits to counties; held 532 conferences and consultations with 945 professional and lay people; attended 16 medical meetings where 224 physicians were assembled; made 10 talks on medical subjects to 157 physicians; and held 25 maternity clinics attended by 193 cases.

Home Delivery Nursing Service

The two obstetric nurses working with the Cullman County Health Department assisted physicians at 454 deliveries, which is 38.5% of the

deliveries made in the county. Every member of the Cullman County Medical Society who is doing obstetrics used the services of these nurses. Expectant mothers began inquiring of their physicians if they used the nurse delivery service before engaging them as their attendants. This service has grown to such proportions that the employment of a chief nurse is indicated to coordinate and integrate the services of the two staff nurses and the two obstetric nurses, as well as do office and field nursing.

MIDWIFE CONTROL

Margaret Murphy, R. N.
Adviser in Midwife Control

Fifty-two counties administered the midwife control program as recommended by the State Health Department. Two thousand, two hundred and seventy-six (2,276) registered midwives attended 14,240 deliveries and 1,000 non-registered midwives attended 3,525 deliveries. Efforts were continued to improve midwife service and eliminate the patently unfit from practice.

The midwife is accepted as an economic necessity on account of low income of residents of the state and the fact that such a high percentage of the people reside in the more remote sections where it is difficult to secure the services of a physician even though funds are available to pay. The midwife control program is directed primarily toward securing midwives who are capable of carrying out instructions, practicing cleanliness, using silver nitrate in the eyes of newborn babies, and prohibiting them from making vaginal examinations and administering drugs.

DIVISION OF CHILD HYGIENE

W. E. Bones, M. D., Associate in Charge
J. B. Roberts, M. D., Pediatrician for East Alabama Health District
Walter H. Maddux, M. D., Negro Pediatrician

The chief purpose of the division is to increase the interest of physicians and lay people in pediatrics and assist health personnel in their child health programs. Child health clinics were conducted, individual and group conferences were held with physicians, literature was distributed to physicians and lay people, well baby and preschool child clinics were conducted and articles were written for publication in the State Medical Journal.

General supervision was given ten child health clinic centers in four counties where local physicians were paid \$5.00 per clinic session except in Jefferson County where they were paid \$4.00 per clinic session. Fifteen thousand, nine hundred and fifty-three (15,953) visits were made by 9,077 children to these child health clinics. The child health clinic service should be increased as rapidly as funds permit. Another white pediatrician and a Negro pediatrician should be added to the staff when personnel expansion can be made. One hundred and two (102) visits were made to counties, and 379 conferences and consultations were held with 612 professional and lay persons. Twenty talks were made at medical meetings attended by 94 physicians, 31 field consultations

were held, 52 well baby and preschool child clinics were held where 1,155 children were examined, and 44 talks were made to lay audiences with 5,419 persons attending.

DIVISION OF ORAL HYGIENE

Reuben T. Crawford, D. D. S., Associate in Charge
Sidney H. Morrow, D. D. S., Dentist for East Alabama Health District

The effectiveness of the oral hygiene program is difficult to accurately estimate. Nevertheless, the interest shown by local dentists, health workers, school personnel, children and parents signifies that results are being accomplished. All have combined their energies to improve oral hygiene, particularly of school children. Cooperation of local dentists in making dental inspections of school children has been gratifying. The dentists of the State Health Department have worked chiefly along educational lines and with local dentists. Fifteen thousand, nine hundred and ninety-seven (15,997) school children received dental inspections and notices of findings were sent to parents, 236 lectures were given to professional and lay audiences, and 116 personal conferences were held with dentists and health officers.

The nutrition consultant continues to promote the nutrition program as a major activity and to emphasize the beneficial effects of proper food selection on dental health as well as general body health. Educational work was carried on, particularly with school children and lunchroom managers. Encouraging results were observed in the interest of lunchroom managers to improve their service and the addition of lunchrooms at schools formerly without them. Twenty-eight counties were visited, 186 conferences were held with professional and lay people, and 171 lectures were given to 11,877 persons. A second nutrition teacher to cooperate in the oral hygiene teaching program is badly needed.

DIVISION OF NURSING

Pearl Barclay, R. N.
Associate in Charge

Five nurses employed by the State Health Department rendered advisory services to the health personnel of state and counties and performed any special nursing service to which they were assigned. Two hundred and eighty-six (286) advisory visits were made to the sixty-seven county health departments. Definite accomplishments were made as evidenced by the equipment of more staff nurses with paraphernalia needed to render efficient service; increased use of reference material; staff education and self evaluation sheets for recording accomplishments and measuring contributions to the community.

A Negro nurse attached to the Movable School working with the Tuskegee Institute promoted health education among Negroes. One hundred and seventy-three (173) demonstrations, and 86 talks were given to 6,013 people in 14 counties. Two well-baby clinics were conducted with the Negro pediatrician making medical examinations of 96 babies. The nurse assisted in the examinations of 486 members of 4-H Clubs. She also as-

sisted in the annual clinic at John A. Andrew Memorial Hospital where 572 patients were examined and treated at the outpatient department and 97 operations were performed.

Seven nurses were added to staffs of county health departments, 2 to the Farm Security Administration, and 4 to the Bureau of Preventable Diseases for assistance in special studies. The applications of 71 nurses for public health positions were received, 16 were placed in 15 counties, and 42 were transferred from one county to another for the good of the service. Credentials and qualifications of all applicants were investigated and personal interviews were held with all who were employed. Investigations of qualifications were made and interviews held with many who were not employed.

Postgraduate Study

Eleven county health nurses received scholarships; 2 of these attended Teachers College, Columbia University, N. Y., for 4½ months, and 9 attended George Peabody College, Nashville, Tennessee, for 3 months. The Negro nurse attached to the Movable School from Tuskegee Institute was granted a travel scholarship for two months to attend the Industrial School at Grambling, Louisiana, and observe the activities of the teaching nurse there. Home study is encouraged for all staff nurses for their growth and development in the work.

EDUCATIONAL ACTIVITIES

Each member of the bureau participates in health education activities. Conferences were held with public health workers, dentists, physicians, personnel of other agencies and volunteer lay workers; lectures were given to health workers, medical and dental societies, schools, teachers, civic clubs, and lay organizations; articles were written for the Alabama School Journal, the Journal of the State Medical Association, and the Journal of Alabama Social Welfare. Bulletins were published and distributed.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in Public Health
Director

The bureau, in addition to analysing the vital statistics, rendered the public considerable service. In 1938, it contacted over 100,000 homes.

Searches of records of births and deaths totalled approximately 37,000. There were 80,414 notifications of birth registration written and mailed to parents; 33,271 queries were mailed for the completion or correction of certificates. More than 37,000 additions or corrections were made on certificates. Certified copies issued numbered 4,559. Records of age verified for school purposes totalled 2,912; for work, 1,019. There were 174 decrees of adoptions received and a substitution of the same number of new registrations. Approximately 125,000 certificates (birth, death, stillbirth, marriage and divorce) were systematically arranged, numbered and bound. About 38,000 letters were mailed during the year.

Almost 149,000 index cards were prepared; 160,000 records of birth, death and marriage transcribed to tabulation and index cards. About

66,000 reports of communicable diseases were transcribed to tabulation cards for the Bureau of Preventable Diseases, as were 15,000 special study cards of dental examinations conducted among school children for the Bureau of Hygiene and Nursing. There were 2,326 copies of the Monthly Bulletin of Vital Statistics prepared and distributed.

Part III of the Board's report was approved; as was the report, as amended, as a whole.

REVISION OF THE ROLLS

The next order of business being the revision of the rolls of the Association, the Secretary was directed by President Harris to proceed without interruption in the absence of objection. As a preface to the revision of the Roll of County Societies, the Secretary said:

"County Medical Societies, to comply with the Constitution, must meet certain obligations. First, an annual report, on forms furnished by the Association, must be filed with the Secretary; second, each society is expected to be represented at the annual meeting by at least one delegate; third, fees must be paid to the Treasurer of the Association for each delegate to which the society is entitled; and, fourth, dues are to be remitted to the Treasurer for each member not exempt from payment of dues."

With this foreword, the revision proceeded.

1. Revision of the Roll of County Societies:

(a) County societies which have fulfilled all their constitutional obligations: Autauga, Barbour, Bibb, Blount, Bullock, Butler, Calhoun, Chambers, Chilton, Choctaw, Coffee, Colbert, Conecuh, Coosa, Crenshaw, Cullman, Dale, Dallas, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Hale Jackson, Jefferson, Lamar, Lee, Limestone, Lowndes, Macon, Madison, Marengo, Marion, Marshall, Mobile, Monroe, Montgomery, Pike, Randolph, Shelby, Sumter, Talladega, Tallapoosa, Tuscaloosa, Walker, Washington, Wilcox, Winston—Total 53.

No objection being made as to the correctness of this report, the President directed that these societies be passed as clear on the books.

(b) County societies partially delinquent: In that they are not represented by delegates at this meeting of the Association—Baldwin, Covington, Houston, Lauderdale, Lawrence, Morgan and Russell; in that they are delinquent in representation, and in dues as indicated—Cherokee (delegate dues for one), Clay (county dues and delegate dues) and Cleburne (delegate dues); for failure to remit dues for one or both delegates—Clark (2) and Greene (1); and Henry for not submitting an annual report—Total 13.

No objection being offered as to the correctness of this report, the President directed that these societies be passed, with the understanding that the Secretary and Treasurer make an effort to remove the delinquencies, as far as possible.

(c) County societies totally delinquent: St. Clair.

The Secretary and Treasurer were directed to communicate with the officers of the society, looking to removal of the delinquencies.

Thereupon the Secretary said: "In revising the Roll of the College of Counsellors, five lists are prepared, designated respectively: (1) the schedule of counsellors clear on the books in regard to attendance and dues; (2) the schedule of delinquent counsellors—counsellors delinquent in attendance or dues, or against whom charges may be pending; (3) the schedule of miscellaneous counsellors—counsellors who have died since the last annual meeting, or have offered their resignation, or have moved out of the State, or out of their respective congressional districts; (4) the schedule of active counsellors of twenty years' standing, and (5) the schedule of counsellors-elect who have qualified as provided in the Constitution."

With such preface, the revision was continued.

2. Revision of the Roll of Counsellors:

(a) Counsellors clear on the books: Abernethy, Acker, C. T., and P. J. M., Alison, J. F., Anderson, Appleton, Bedsole, Belue, Brown, Brunson, Burdeshaw, Cannon, Carter, Chenault, E. M., Craddock, Dabney, Dowling, Eskew, Garber, Gilder, Gragg, Graham, Granger, Gresham, W. A.; Grote, Hagood, Hatchett, Hayes, C. P. and J. P., Hill, R. C., and R. L.; Hodges, Howell, Hubbard, James, Leach, Ledbetter, Lester, Lewis, Long, Martin, J. A., Mason, E. M., McAdory, McCall, Moore, C. W. C., and D. S., Newman, Noland, Oswald, Parker, Perdue, Redden, Riser, Rountree, Rucker, Salter, Scarbrough, Scott, Searcy, Shropshire, Sledge, Smith, G. R., Stabler, Stallworth, Tankersley, Taylor, Thacker, Thomas, Tillman, Waldrop, Walker, Walls, Walsh, Weil, Welch, Weldon, White, Williams, Wood, Wright.

In the absence of objection, the President ordered passed the names of these counsellors reported as clear on the books:

(b) Delinquent Counsellors: Dr. F. R. B. Coggin.

(c) Miscellaneous Counsellors:

- (1) Life Counsellors who have died: Dr. W. S. Britt, Dr. E. G. Givhan and Dr. W. E. Morris.
- (2) Active Counsellors who have died: Dr. S. E. Jordan and Dr. J. A. M. Nolen.
- (3) Active Counsellors who have moved: None.
- (4) Active Counsellors who have resigned: Dr. R. B. Beard.
- (5) Active Counsellors of twenty years' standing: Drs. S. B. Alison, V. L. Ashcraft, Cabot Lull, K. A. Mayer, A. B. Price, A. W. Ralls and F. W. Wilkerson.
- (6) Counsellors-Elect who have properly qualified: Drs. C. E. Abbott, J. G. Daves, J. F. Huey, C. O. King, H. C. McCullough, F. W. Pickell, H. M. Simpson, Merle Smith and Jerre Watson.

The President directed that the names of the deceased counsellors be transferred to the Book of the Dead; that the names of Drs. R. B. Beard and F. R. B. Coggin be removed from the roll; that Drs. S. B. Alison, V. L. Ashcraft, Cabot Lull, K. A. Mayer, A. B. Price, A. W. Ralls and F. W. Wilkerson be transferred to the Roll of Life Counsellors; and that to the Roll of Active Counsellors be added Drs. C. E. Abbott, J. G. Daves, J. F. Huey, C. O. King, H. C. McCullough, F. W. Pickell, H. M. Simpson, Merle Smith and Jerre Watson.

3. Revision of the Roll of Correspondents:

Dr. George T. Pack, the 1939 Jerome Cochran Lecturer, was added to the Roll of Correspondents.

4. Revision of the Roll of Officers:

Dr. M. S. Davie, Dothan, was elected President; Dr. J. S. Tillman, Clio, Vice-President of the Southeastern Division; Dr. J. Paul Jones, Camden, Vice-President of the Southwestern Division, to fill the unexpired term of two (2) years of Dr. A. B. Coxwell, deceased; Dr. Douglas L. Cannon, Montgomery, Secretary; Drs. J. D. Perdue and Lloyd Noland, Censors for five years, succeeding themselves; and Dr. French Craddock, Sylacauga, Censor for four years, to fill the unexpired term of Dr. M. S. Davie.

Committees constitutionally provided to nominate counsellors brought in the following nominations: 1st District—Dr. W. T. Cocke; 2nd District—Drs. N. W. Killingsworth, H. W. Waters and C. G. Laslie; 3rd District—Dr. F. H. Boyd; 4th District—Drs. F. H. Craddock and Marcus Skinner; 5th District—Drs. S. H. Newman, J. O. Morgan and C. E. Ford; 7th District—Drs. D. H. Wright, L. C. Davis and R. Lee Hill; 8th District—Dr. W. R. Taylor; and 9th District—Drs. John Sherrill, J. R. Garber and D. S. Moore, Jr.

The ballot of the Association was cast for these nominees by the Secretary.

Miscellaneous Business

Birmingham was chosen as the 1940 meeting place.

Resolution was adopted conveying the Association's appreciation of courtesies shown it during the session.

President Davie and other newly chosen officers were presented, whereupon the Association was declared adjourned.

THE ROLL OF COUNSELLORS

REVISION OF 1939

LIFE COUNSELLORS

Name and Address	Date of Election
Alison, Samuel Blakemore, Minter (4)	1919
Andrews, Glenn, Montgomery (2)	1893
Ashcraft, Virgil Lee, Reform (7)	1919
Baker, J. N., Montgomery (2)	1905
Bondurant, Eugene DuBose, Mobile (1)	1894
Caldwell, Edwin Valdivia, Huntsville (8)	1918
Cameron, Matthew Bunyan, Eutaw (6)	1893
Chenault, Frank L., Decatur (8)	1917
Crutcher, John Sims, Athens (8)	1915
Cunningham, William Moody, Jasper (7)	1912
Davie, Mercer Stillwell, Dothan (3)	1904
Faulk, William M., Tuscaloosa (6)	1913
Gordon, Samuel A., Marion (6)	1913
Gresham, George L., Andalusia (2)	1913
Guice, Charles Lee, Gadsden (5)	1899
Harper, Wm. Wade, Selma (4)	1902
Harris, Seale, Birmingham (9)	1903
Harrison, William Groce, Birmingham (9)	1896
Heacock, Jos. D., Birmingham (9)	1912
Heflin, Wyatt, Birmingham (9)	1893
Hendrick, Walter Branham, Hurtsboro (3)	1915
Hill, Luther Leonidas, Montgomery (2)	1888
Hill, Robert Somerville, Montgomery (2)	1898
Howell, William Edward, Haleyville (7)	1918
Howle, James Augustus, Hartselle (8)	1895
Jackson, Alva A., Florence (8)	1918
Jones, Capers Capehart, East Lake (9)	1881
Lightfoot, Phillip Malcolm, Shorter (3)	1918
Lull, Cabot, Birmingham (9)	1919
Lupton, Frank A., Birmingham (9)	1913
Martin, James Cordie, Cullman (7)	1917
Mason, James Monroe, Birmingham (9)	1918
Mayer, Kossuth Aaron, Lower Peach Tree (1)	1919
McCain, William Jasper, Livingston (6)	1898
McLeod, John Calvin, Bay Minette (2)	1911
McLester, James Somerville, Birmingham (9)	1913
Mohr, Chas. A., Mobile (1)	1909
Partlow, William Dempsey, Tuscaloosa (6)	1903
Price, Albert Bascom, Gordo (7)	1919
Prince, Edward Mortimer, Birmingham (9)	1909
Ralls, Arthur W., Gadsden (5)	1919
Ray, Jacob Ussery, Woodstock (6)	1906
Sankey, Howard J., Nauvoo (7)	1914
Smith, Russell Aubrey, Brewton (2)	1918
Spear, Phillip V., Greenville (2)	1917
Talley, Dyer Findley, Birmingham (9)	1902
Thigpen, Charles Alston, Montgomery (2)	1900
Ward, Henry Silas, Birmingham (9)	1915
Wilkerson, Fred Wooten, Montgomery (2)	1919
Wilkinson, David Leonidas, Birmingham (9)	1902

Total 50

ACTIVE COUNSELLORS

Those marked with a † are serving last terms of six years.

Those marked with an asterisk (*) are serving second terms of seven years.

Those without a symbol are serving first terms of seven years.

The numeral is the number of the congressional district.

	Date of Elec- Expi- tion ration
Abernethy, Floyd L., Foley (2)	1933 to 1940
Abbott, Chas. E., Tuscaloosa (6)	1938 to 1945
Acker, Charles T., Montevallo (6)	1937 to 1944
Acker, Paul Jerome Morris, Mobile (1)	†1937 to 1943
Alison, James F., Selma (4)	1934 to 1941
Anderson, Thos. J., Greensboro (6)	1933 to 1940
Appleton, Thomas H., Collinsville (5)	1936 to 1943
Bedsole, James Goodman, Jackson (1)	†1936 to 1942
Belue, Julius O., Athens (8)	1937 to 1944
Brown, Elridge T., Cleveland (7)	1937 to 1944
Brunson, Emmett T., Samson (3)	1936 to 1943
Burdeshaw, Shelby L., Headland (3)	†1935 to 1941
Cannon, Douglas L., Montgomery (2)	*1935 to 1942
Carter, William R., Repton (2)	1934 to 1941
Chenault, Erskine M., Decatur (8)	1935 to 1942
Craddock, French H., Sylacauga (4)	*1939 to 1946
Dabney, Marye Y., Birmingham (9)	†1937 to 1943
Daves, James G., Cullman (7)	1938 to 1945
Dowling, Judson Davis, Birmingham (9)	†1936 to 1942
Eskew, M. H., Uniontown (6)	1934 to 1941
Garber, James R., Birmingham (9)	*1939 to 1946
Gilder, George S., Carbon Hill (7)	1934 to 1941
Gragg, Vincent Jones, Clanton (6)	†1935 to 1941
Graham, Geo. S., Birmingham (9)	1936 to 1943
Granger, F. G., Ashford (3)	*1935 to 1942
Gresham, Walter A., Russellville (7)	1933 to 1940
Grote, Carl A., Huntsville (8)	1937 to 1944
Hagood, M. H., Brewton (2)	†1938 to 1944
Hatchett, Wm. C., Huntsville (8)	*1936 to 1943
Hayes, Charles Philips, Elba (3)	†1934 to 1940
Hayes, Julius Poe, Clanton (6)	†1934 to 1940
Hill, Robert C., York (6)	1936 to 1943
Hill, Robert L., Winfield (7)	†1938 to 1944
Hodges, Rayford, Scottsboro (8)	1935 to 1942
Howell, John V., Marion (6)	1936 to 1943
Hubbard, T. Brannon, Montgomery (2)	†1938 to 1944
Huey, John F., Falkville (8)	1938 to 1945
James, Norman Gilchrist, Hayneville (2)	†1935 to 1941
King, Chas. O., Birmingham (9)	1938 to 1945
Leach, Sydney, Tuscaloosa (6)	†1934 to 1940
Ledbetter, Samuel L., Jr., Birmingham (9)	1935 to 1942
Lester, Belford S., Birmingham (9)	†1937 to 1943
Lewis, Walter A., Enterprise (3)	1933 to 1940
Long, Clarence, Hurtsboro (3)	†1934 to 1940
Martin, John A., Montgomery (2)	1933 to 1940
Mason, E. M., Birmingham (9)	†1938 to 1944
McAdory, Edward Dudley, Cullman (7)	†1934 to 1940
McCall, Daniel T., Mobile (1)	†1937 to 1943
McCullough, Henry C., Town Creek (8)	1938 to 1945
Moore, C. W. C., Talladega (4)	1937 to 1944
Moore, David S., Jr., Birmingham (9)	*1939 to 1946
Newman, Samuel Harris, Dadeville (5)†	†1939 to 1945
Noland, Lloyd, Fairfield (9)	*1936 to 1943
Oswalt, G. G., Mobile (1)	*1936 to 1943
Parker, Lorenzo D., Andalusia (2)	1933 to 1940
Perdue, James D., Mobile (1)	1933 to 1940
Pickell, Frank W., Brewton (2)	1938 to 1945
Redden, Raymond Hollis, Sulligent (7)	*1933 to 1940
Riser, William H., Lafayette (5)	1935 to 1942
Rountree, W. S., Wylam (9)	†1938 to 1944
Rucker, Edmon W., Birmingham (9)	†1936 to 1942
Salter, Wilbur M., Anniston (4)	1934 to 1941
Scarborough, B. C., Albertville (5)	1935 to 1942
Scott, Walter F., Birmingham (9)	†1936 to 1942

†Deceased

ACTIVE COUNSELLORS—Continued Date of

	Elec- Expi- tion ration
Searcy, Harvey Brown, Tuscaloosa (6)	†1937 to 1943
Shropshire, Courtney William, B'ham (9)	†1937 to 1943
Simpson, Harry M., Florence (8)	1938 to 1945
Sledge, Edward Simmons, Mobile (1)	†1936 to 1942
Smith, Gordon R., Ozark (3)	1934 to 1941
Smith, Merle E., Parrish (7)	1938 to 1945
Stabler, Lorenzo V., Greenville (2)	1937 to 1944
Stallworth, William A., Frisco City (1)	1937 to 1944
Tankersley, James, Prattville (4)	*1935 to 1942
Taylor, Woodie R., Town Creek (8)	†1939 to 1945
Thacker Vincent J., Dothan (3)	1935 to 1942
Thomas, Eugene Marvin, Prattville (4)	†1934 to 1940
Tillman, John S., Clio (3)	1935 to 1942
Waldrop, R. W., Bessemer (9)	†1936 to 1942
Walker, Alfred A., Birmingham (9)	†1937 to 1943
Walls, J. J., Alexander City (5)	†1938 to 1944
Walsh, Groesbeck, Fairfield (9)	1933 to 1940
Watson, Jerre, Anniston (4)	1938 to 1945
Weil, Clarence K., Montgomery (2)	1937 to 1944
Welch, Stewart, Birmingham (9)	1934 to 1941
Weldon, Joseph M., Mobile (1)	1935 to 1942
White, Alexander L., Thomasville (1)	*1935 to 1942
Williams, Mark Johnson, Oxford (4)	†1934 to 1940
Wood, Wiley D., Camp Hill (5)	1933 to 1940
Wright, David H., Berry (7)	*1939 to 1946
Total 89	

COUNSELLORS-ELECT

Boyd, Frank H., Opelika (3)	1939 to 1946
Cocke, William T., Demopolis (1)	1939 to 1946
Davis, Lewis C., Gordo (7)	1939 to 1946
Ford, Charles E., Roanoke (5)	1939 to 1946
Hill, R. Lee, Haleyville (7)	1939 to 1946
Killingsworth, Noah W., Brundidge (2)	1939 to 1946
Laslie, Carney G., Montgomery (2)	1939 to 1946
Morgan, J. Orville, Gadsden (5)	1939 to 1946
Sherrill, John D., Birmingham (9)	1939 to 1946
Skinner, Marcus, Selma (4)	1939 to 1946
Waters, Hinton W., Opp (2)	1939 to 1946
Total 11	

THE ROLL OF THE COLLEGE OF COUNSELLORS BY CONGRESSIONAL DISTRICTS

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly more than their pro rata share of Counsellors. The calculations are based on the nearest whole number. On April 1, 1939, there were 1,558 members in the County Medical Societies. That would give one Counsellor to every 15 members. The membership set forth in the following is that of April 1.

FIRST DISTRICT

Names of Counsellors—W. T. Cocke, Marengo; J. G. Bedsole and A. L. White, Clarke; E. S. Sledge, P. J. M. Acker, D. T. McCall, G. G. Oswalt, J. M. Weldon and J. D. Perdue, Mobile; W. A. Stallworth, Monroe.

County	Members	Counsellors
Choctaw	8	0
Clarke	13	2
Marengo	20	1
Mobile	97	6
Monroe	11	1

Washington	4	0
Wilcox	12	0
	165	10

SECOND DISTRICT

Names of Counsellors—F. L. Abernethy, Baldwin; L. V. Stabler, Butler; W. R. Carter, Conecuh; L. D. Parker and H. W. Waters, Covington; M. H. Hagood and F. W. Pickell, Escambia; N. G. James, Lowndes; T. B. Hubbard, C. G. Laslie, J. A. Martin, C. K. Weil and Douglas L. Cannon, Montgomery; and N. W. Killingsworth, Pike.

County	Members	Counsellors
Baldwin	13	1
Butler	14	1
Conecuh	8	1
Covington	18	2
Crenshaw	9	0
Escambia	18	2
Lowndes	5	1
Montgomery	93	5
Pike	20	1
	198	14

THIRD DISTRICT

Names of Counsellors—J. S. Tillman, Barbour; C. P. Hayes and W. A. Lewis, Coffee; G. R. Smith, Dale; E. T. Brunson, Geneva; S. L. Burdeshaw, Henry; V. J. Thacker and F. G. Granger, Houston; F. H. Boyd, Lee; and Clarence Long, Russell.

County	Members	Counsellors
Barbour	13	1
Bullock	8	0
Coffee	17	2
Dale	10	1
Geneva	17	1
Henry	10	1
Houston	31	2
Lee	19	1
Macon	9	0
Russell	7	1
	141	10

FOURTH DISTRICT

Names of Counsellors—James Tankersley and E. M. Thomas, Autauga; W. M. Salter, Jerre Watson and M. J. Williams, Calhoun; J. F. Alison and Marcus Skinner, Dallas; and French Craddock and C. W. C. Moore, Talladega.

County	Members	Counsellors
Autauga	7	2
Calhoun	41	3
Clay	7	0
Coosa	5	0
Dallas	33	2
Elmore	15	0
St. Clair	13	0
Talladega	24	2
	145	9

FIFTH DISTRICT

Names of Counsellors—W. H. Riser, Chambers; T. H. Appleton, DeKalb; J. O. Morgan, Etowah; B. C. Scarbrough, Marshall; C. E. Ford, Randolph; and J. J. Walls, S. H. Newman* and W. D. Wood, Tallapoosa.

County	Members	Counsellors
Chambers	15	1
Cherokee	2	0
Cleburne	3	0
DeKalb	12	1
Etowah	49	1
Marshall	19	1
Randolph	12	1
Tallapoosa	17	3
	129	8

SIXTH DISTRICT

Names of Counsellors—J. P. Hayes and V. J. Gragg, Chilton; T. J. Anderson, Hale; M. H. Eskew and J. V. Howell, Perry; C. T. Acker, Shelby; R. C. Hill, Sumter; and Sydney Leach, H. B. Searcy and C. E. Abbott, Tuscaloosa.

County	Members	Counsellors
Bibb	12	0
Chilton	18	2
Greene	8	0
Hale	9	1
Perry	10	2
Shelby	14	1
Sumter	15	1
Tuscaloosa	46	3
	132	10

SEVENTH DISTRICT

Names of Counsellors—E. T. Brown, Blount; E. D. McAdory and J. G. Daves, Cullman; D. H. Wright, Fayette; W. A. Gresham, Franklin; R. H. Redden, Lamar; Robert L. Hill, Marion; L. C. Davis, Pickens; G. S. Gilder and M. E. Smith, Walker; and R. Lee Hill, Winston.

County	Members	Counsellors
Blount	11	1
Cullman	16	2
Fayette	8	1
Franklin	15	1
Lamar	12	1
Marion	12	1
Pickens	13	1
Walker	36	2
Winston	9	1
	132	11

EIGHTH DISTRICT

Names of Counsellors—Rayford Hodges, Jackson; H. M. Simpson, Lauderdale; W. R. Taylor and H. C. McCullough, Lawrence; J. O. Belue, Limestone; W. C. Hatchett and C. A. Grote, Madison; and E. M. Chenault and J. F. Huey, Morgan.

*Deceased

County	Members	Counsellors	Place and President	Year
Colbert	19	0	Huntsville—Thomas Childress Osborne	1872
Jackson	15	1	Tuscaloosa—George Ernest Kumpe	1873
Lauderdale	25	1	Selma—George Augustus Ketchum	1874
Lawrence	9	2	Montgomery—Job Sobieski Weatherly	1875
Limestone	12	1	Mobile—John Jefferson Dement	1876
Madison	28	2	Birmingham—Edward Davies McDaniel	1877
Morgan	27	2	Eufaula—Peter Bryce	1878
	135	9	Selma—Robert Dickens Webb	1879
			Huntsville—Edmond Pendleton Gaines	1880
			Montgomery—William Henry Anderson	1881
			Mobile—John Brown Gaston	1882
			Birmingham—Clifford Daniel Parke	1883
			Selma—Mortimer Harvey Jordan	1884
			Greenville—Benjamin Hogan Riggs	1885
			Anniston—Francis Marion Peterson	1886
			Tuscaloosa—Samuel Dibble Seelye	1887
			Montgomery—Edward Henry Sholl	1888
			Mobile—Milton Columbus Baldrige	1889
			Birmingham—Charles Higgs Franklin	1890
			Huntsville—William Henry Sanders	1891
			Montgomery—Benjamin James Baldwin	1892
			Selma—James Thomas Searcy	1893
			Birmingham—Thaddeus Lindley Robertson	1894
			Mobile—Richard Matthew Fletcher	1895
			Montgomery—William Henry Johnston	1896
			Selma—Barckley Wallace Toole	1897
			Birmingham—Luther Leonidas Hill	1898
			Mobile—Henry Altamont Moody	1899
			Montgomery—John Clarke LeGrande	1900
			Selma—Russell McWhorter Cunningham	1901
			Birmingham—Edwin Lesley Marechal	1902
			Talladega—Glenn Andrews	1903
			Mobile—Matthew Bunyan Cameron	1904
			Montgomery—Capers Capehart Jones	1905
			Birmingham—Eugene DuBose Bondurant	1906
			Mobile—George Tighlman McWhorter	1907
			Montgomery—Samuel Wallace Welch	1908
			Birmingham—Benjamin Leon Wyman	1909
			Mobile—Wooten Moore Wilkerson	1910
			Montgomery—Wyatt Heflin Blake	1911
			Birmingham—Lewis Coleman Morris	1912
			Mobile—Harry Tutwiler Inge	1913
			Montgomery—Robert S. Hill	1914
			Birmingham—Benjamin Britt Simms	1915
			Mobile—James Norment Baker	1916
			Montgomery—Henry Green	1917
			Birmingham—William Dempsey Partlow	1918
			Mobile—Isaac LaFayette Watkins	1919
			Anniston—James Somerville McLester	1920
			Montgomery—Louis William Johnston	1921
			Birmingham—Dyer F. Talley	1922
			Mobile—Walter S. Britt	1923
			Montgomery—W. W. Harper	1924
			Birmingham—J. D. Heacock	1925
			Mobile—C. A. Mohr	1926
			Montgomery—A. L. Harlan	1927
			Birmingham—John D. S. Davis	1928
			Mobile—E. V. Caldwell	1929
			Montgomery—L. E. Broughton	1930
			Birmingham—W. G. Harrison	1931
			Mobile—Toulmin Gaines	1932
			Montgomery—Samuel Kirkpatrick	1933
			Birmingham—James R. Garber	1934
			Mobile—William M. Cunningham	1935
			Montgomery—Charles A. Thigpen	1936
			Birmingham—Lloyd Noland	1937
			Mobile—E. S. Sledge	1938
			Montgomery—Seale Harris, Sr.	1939

NINTH DISTRICT

Names of Counsellors—G. S. Graham, S. H. Welch, J. D. Sherrill, R. W. Waldrop, W. F. Scott, E. W. Rucker, J. D. Dowling, M. Y. Dabney, B. S. Lester, C. W. Shropshire, Alfred A. Walker, E. M. Mason, W. S. Rountree, Lloyd Noland, J. R. Garber, D. S. Moore, Jr., Groesbeck Walsh, C. O. King and S. L. Ledbetter, Jr.

County	Members	Counsellors
Jefferson	381	19

THE ROLL OF CORRESPONDENTS

"Distinguished members of the medical profession residing outside of the State, and Counsellors of the Association, who after not less than ten years of faithful service may have resigned their counsellorships, shall be eligible for election as Correspondents.

"Correspondents shall have the privilege of transmitting or presenting to the Association such communications, or scientific essays, as they may deem proper."—*From the Constitution.*

Name and Address	Date of Election
Andrew J. Coley, Oklahoma City	1909
W. S. Thayer, Baltimore	1921
Lewellys F. Barker, Baltimore	1921
Rudolph Matas, New Orleans	1921
Frank Smithies, Chicago	1921
John B. Elliott, Jr., New Orleans	1921
Howard A. Kelly, Baltimore	1921
Wm. J. Mayo, Rochester, Minn.	1921
George W. Crile, Cleveland, Ohio	1921
Henry A. Christian, Boston	1921
J. Whitridge Williams, Baltimore, Md.	1921
H. A. Royster, Raleigh, N. C.	1926
Stewart Roberts, Atlanta	1927
G. Canby Robinson, Baltimore	1928
Louis B. Wilson, Rochester, Minn.	1930
R. S. Cunningham, Nashville	1932
A. Benson Cannon, New York	1932
J. Shelton Horsley, Richmond	1933
Russell L. Cecil, New York	1934
George H. Semken, New York	1935
Frank H. Lahey, Boston	1937
T. M. McMillan, Philadelphia	1938
George T. Pack, New York	1939

SCHEDULE OF THE ANNUAL SESSIONS AND PRESIDENTS SINCE THE RE- ORGANIZATION IN 1868

Place and President	Year
Selma—Albert Galatin Mabry	1868
Mobile—Albert Galatin Mabry	1869
Montgomery—Richard Frazer Michel	1870
Mobile—Francis Armstrong Ross	1871
Huntsville—Thomas Childress Osborne	1872
Tuscaloosa—George Ernest Kumpe	1873
Selma—George Augustus Ketchum	1874
Montgomery—Job Sobieski Weatherly	1875
Mobile—John Jefferson Dement	1876
Birmingham—Edward Davies McDaniel	1877
Eufaula—Peter Bryce	1878
Selma—Robert Dickens Webb	1879
Huntsville—Edmond Pendleton Gaines	1880
Montgomery—William Henry Anderson	1881
Mobile—John Brown Gaston	1882
Birmingham—Clifford Daniel Parke	1883
Selma—Mortimer Harvey Jordan	1884
Greenville—Benjamin Hogan Riggs	1885
Anniston—Francis Marion Peterson	1886
Tuscaloosa—Samuel Dibble Seelye	1887
Montgomery—Edward Henry Sholl	1888
Mobile—Milton Columbus Baldrige	1889
Birmingham—Charles Higgs Franklin	1890
Huntsville—William Henry Sanders	1891
Montgomery—Benjamin James Baldwin	1892
Selma—James Thomas Searcy	1893
Birmingham—Thaddeus Lindley Robertson	1894
Mobile—Richard Matthew Fletcher	1895
Montgomery—William Henry Johnston	1896
Selma—Barckley Wallace Toole	1897
Birmingham—Luther Leonidas Hill	1898
Mobile—Henry Altamont Moody	1899
Montgomery—John Clarke LeGrande	1900
Selma—Russell McWhorter Cunningham	1901
Birmingham—Edwin Lesley Marechal	1902
Talladega—Glenn Andrews	1903
Mobile—Matthew Bunyan Cameron	1904
Montgomery—Capers Capehart Jones	1905
Birmingham—Eugene DuBose Bondurant	1906
Mobile—George Tighlman McWhorter	1907
Montgomery—Samuel Wallace Welch	1908
Birmingham—Benjamin Leon Wyman	1909
Mobile—Wooten Moore Wilkerson	1910
Montgomery—Wyatt Heflin Blake	1911
Birmingham—Lewis Coleman Morris	1912
Mobile—Harry Tutwiler Inge	1913
Montgomery—Robert S. Hill	1914
Birmingham—Benjamin Britt Simms	1915
Mobile—James Norment Baker	1916
Montgomery—Henry Green	1917
Birmingham—William Dempsey Partlow	1918
Mobile—Isaac LaFayette Watkins	1919
Anniston—James Somerville McLester	1920
Montgomery—Louis William Johnston	1921
Birmingham—Dyer F. Talley	1922
Mobile—Walter S. Britt	1923
Montgomery—W. W. Harper	1924
Birmingham—J. D. Heacock	1925
Mobile—C. A. Mohr	1926
Montgomery—A. L. Harlan	1927
Birmingham—John D. S. Davis	1928
Mobile—E. V. Caldwell	1929
Montgomery—L. E. Broughton	1930
Birmingham—W. G. Harrison	1931
Mobile—Toulmin Gaines	1932
Montgomery—Samuel Kirkpatrick	1933
Birmingham—James R. Garber	1934
Mobile—William M. Cunningham	1935
Montgomery—Charles A. Thigpen	1936
Birmingham—Lloyd Noland	1937
Mobile—E. S. Sledge	1938
Montgomery—Seale Harris, Sr.	1939

SECRETARIES OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

1852-1854	George A. Ketchum
1854-1855	R. Miller
1869-1873	Jerome Cochran
1874-1878	B. H. Riggs
1879-1892	T. A. Means
1893-1897	J. R. Jordan
1897-1904	G. P. Waller
1904-1906	L. C. Morris
1906-1915	J. N. Baker
1915-1923	H. G. Perry
1923-1924	Douglas L. Cannon
1924-1930	B. B. Simms
1930-	Douglas L. Cannon

TREASURERS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

1854-1855	W. P. Reese
1869-1898	W. C. Jackson
1898-1915	H. G. Perry
1915-	J. U. Ray

SCHEDULE OF JEROME COCHRAN
LECTURERS

- 1899—J. T. Searcy, Tuscaloosa—What Is Insanity?
 1900—Wm. Osler, Baltimore—Not present.
 1901—Wm. Osler, Baltimore—Not present.
 1902—Nathan Bozeman, New York—Declined.
 1903—George H. Price, Nashville—The History of Medicine.
 1904—W. S. Thayer, Baltimore—Cardiac and Vascular Complications of Typhoid Fever.
 1905—Robert Abbe, New York—The Problems of Surgery.
 1906—Joseph Collins, Boston—Arteriosclerosis.
 1907—Nicholas Senn, Chicago—Final Triumph of Scientific Medicine.
 1908—E. L. Marechal, Mobile—Absent.
 1909—Lewellys F. Barker, Baltimore—Clinical Methods of Cardiac Investigation.
 1910—Frank S. Meara, New York—Some Problems of Nutrition in Early Life.
 1911—Rudolph Matas, New Orleans—Inflammatory Tuberculosis.
 1912—Maurice H. Richardson, Boston—Elimination of Preventable Disasters from Surgery.
 1913—L. L. Hill, Montgomery—Surgical Complications and Sequelae of Typhoid Fever.
 1914—Frank Smithies, Chicago—Contributions of the Twentieth Century to the Better Understanding of Gastric Cancer.
 1915—John B. Elliott, Jr., New Orleans—Abscess of Liver.
 1916—Howard A. Kelly, Baltimore—Radium Therapy.
 1917—Wm. J. Mayo, Rochester—Importance of Septic Infection in the Three Great Plagues.
 1918—George E. Bushnell, Washington—The Army in Relation to the Tuberculosis Problem.
 1919—George W. Crile, Cleveland, Ohio—Abdominal Surgery in Civil and Military Hospitals.

1920—Henry A. Christian, Boston—Bright's Disease With Special Reference to Its Treatment.
 1921—J. Whitridge Williams, Baltimore—A Critical Review of Twenty-One Years' Experience with Caesarean Section.

1922—Chas. H. Mayo, Rochester, Minn.—The Thyroid and Its Diseases.

1923—Jas. S. McLester, Birmingham—Nutrition in Its Newer Aspects.

1924—James S. Stone, Boston—Abdominal Diagnoses in Children.

1925—H. A. Royster, Raleigh—The Surgeon's Heritage and Outlook.

1926—Stewart Roberts, Atlanta—The Heart Muscle.

1927—G. Canby Robinson, Baltimore—The Mechanism of Heart Failure and Its Correction.

1928—John B. Deaver, Philadelphia—Chronic Pancreatitis.

1929—Louis B. Wilson, Rochester, Minn.—Some Suggestions for Improved Training of Medical Specialists.

1930—Walter E. Sistrunk, Dallas, Texas—The Part That Surgical Anesthesia Has Played in Medical Science.

1931—R. S. Cunningham, Nashville, Tenn.—Studies on the Pathology of Tuberculosis and Syphilis.

1932—A. Benson Cannon, New York—Practical Points on the Diagnosis and Treatment of the so-called Lymphoblastoma Group of Diseases.

1933—J. Shelton Horsley, Richmond—Cancer of the Stomach and Colon.

1934—Russell L. Cecil, New York—Present Trends in the Study of Rheumatic Fever and Rheumatoid Arthritis.

1935—George H. Semken, New York—A Consideration of Tumors of the Breast.

1936—William D. Partlow, Tuscaloosa—A Debt the World Owes Medical Science.

1937—Frank H. Lahey, Boston—Carcinoma of the Colon and Rectum.

1938—T. M. McMillan, Philadelphia—An Optimistic View of Some of the Problems of Heart Disease.

1939—George T. Pack, New York—Recent Advances in the Radiation Therapy of Cancer.

OFFICERS OF THE ASSOCIATION

PRESIDENT

M. S. DAVIE (1940) Dothan

VICE-PRESIDENTS

M. E. SMITH (1940) Parrish
 J. PAUL JONES (1941) Camden
 R. C. STEWART (1942) Sylacauga
 J. S. TILLMAN (1943) Clio

SECRETARY

DOUGLAS L. CANNON (1944) Montgomery

TREASURER

J. U. RAY (1943) Woodstock

THE STATE BOARD OF CENSORS

E. V. CALDWELL, Chm. (1940)	Huntsville
S. A. GORDON (1940)	Marion
K. A. MAYER (1941)	Lower Peach Tree
M. Y. DABNEY (1941)	Birmingham
T. B. HUBBARD (1942)	Montgomery
W. D. PARTLOW (1942)	Tuscaloosa
FRENCH CRADDOCK (1943)	Sylacauga
F. W. WILKERSON (1943)	Montgomery
J. D. PERDUE (1944)	Mobile
LLOYD NOLAND (1944)	Birmingham

STATE HEALTH OFFICER

J. N. BAKER (1940)	Montgomery
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DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegate—J. N. BAKER	Montgomery
Alternate—FRED WILKERSON	Montgomery
(Terms expire with the 1941 session of the American Medical Association)	
Delegate—A. A. WALKER	Birmingham
Alternate—G. O. SEGREST	Mobile
(Terms expire with the 1940 session of the American Medical Association)	

COMMITTEE ON PUBLIC RELATIONS

JOHN A. MARTIN, Chairman	Montgomery
G. O. SEGREST	Mobile
J. R. GARBER	Birmingham
M. M. DUNCAN	Huntsville
F. H. CRADDOCK	Sylacauga

COMMITTEE ON MENTAL HYGIENE

FRANK A. KAY, Chairman	Tuscaloosa	1941
W. S. LITTLEJOHN	Birmingham	1942
J. G. BEDSOLE	Jackson	1940

COMMITTEE ON MATERNAL AND INFANT WELFARE

A. E. THOMAS, Chairman	Montgomery	1941
P. S. WOODALL	Birmingham	1942
HUGHES KENNEDY, JR.	Birmingham	1940

COMMITTEE ON PREVENTION OF CANCER

J. P. CHAPMAN, Chairman	Selma	1940
K. F. KESMODEL	Birmingham	1941
H. M. SIMPSON	Florence	1942

COMMITTEE ON PREVENTION OF BLINDNESS AND DEAFNESS

J. T. CATER, Chairman	Montgomery	1940
LUCIEN BROWN	Gadsden	1942
B. B. WARWICK	Talladega	1941

COMMITTEE ON POSTGRADUATE STUDY

RALPH McBURNEY, Chairman	University	1942
CABOT LULL	Birmingham	1941
CLARENCE K. WEIL	Montgomery	1940

COMMITTEE ON FRACTURES AND FIRST AID

H. EARLE CONWELL, Chmn.	Birmingham	1939
MARCUS SKINNER	Selma	1941
W. S. ROUNTREE	Wylam	1940

REGISTRATION AT THE SEVENTY-SECOND CONSECUTIVE ANNUAL SESSION

Montgomery, April 18-20, 1939

LIFE COUNSELLORS

Baker, J. N., Montgomery	Harrison, W. G., Sr., Birmingham	McLester, J. S., Birmingham
Caldwell, E. V., Huntsville	Heacock, J. D., Birmingham	Mohr, C. A., Mobile
Chenault, F. L., Decatur	Heflin, Wyatt, Birmingham	Partlow, W. D., Tuscaloosa
Cunningham, W. M., Jasper	Hill, R. S., Montgomery	Ray, J. U., Woodstock
Davie, M. S., Dothan	Howell, W. E., Haleyville	Smith, R. A., Brewton
Gordon, S. A., Marion	Howle, J. A., Hartselle	Speir, P. V., Greenville
Gresham, G. L., Speigner	Jackson, A. A., Florence	Talley, D. F., Birmingham
Guice, C. L., Gadsden	Jones, C. C., Birmingham	Thigpen, C. A., Montgomery
Harper, W. W., Selma	Lightfoot, P. M., Shorter	Ward, H. S., Birmingham
Harris, Seale, Birmingham	Mason, J. M., Birmingham	

ACTIVE COUNSELLORS

Abbott, C. E., Tuscaloosa	Dabney, M. Y., Birmingham	Hodges, Rayford, Scottsboro
Acker, C. T., Montevallo	Daves, J. G., Cullman	Howell, J. V., Marion
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Anderson, T. J., Greensboro	Garber, J. R., Birmingham	James, N. G., Hayneville
Appleton, T. H., Collinsville	Gragg, V. J., Clanton	King, C. O., Birmingham
Ashcraft, V. L., Reform	Granger, F. G., Ashford	Leach, Sydney, Tuscaloosa
Brown, E. T., Cleveland	Gresham, W. A., Russellville	Ledbetter, S. L., Jr., Birmingham
Brunson, E. T., Samson	Hagood, M. H., Brewton	Lester, B. S., Birmingham
Burdshaw, S. L., Headland	Hatchett, W. C., Huntsville	Lewis, W. A., Enterprise
Cannon, D. L., Montgomery	Hayes, C. P., Elba	Long, Clarence, Hurtsboro
Carter, W. R., Repton	Hayes, J. P., Clanton	Lull, Cabot, Birmingham
Chenault, E. M., Decatur	Hill, R. C., York	Martin, John A., Montgomery
Craddock, F. H., Sylacauga	Hill, R. L., Winfield	Mason, E. M., Birmingham

Mayer, K. A., Lower Peach Tree	Rucker, E. W., Jr., Birmingham	Thacker, V. J., Dothan
McCullough, H. C., Town Creek	Salter, W. M., Anniston	Thomas, E. M., Prattville
Moore, C. W. C., Talladega	Scarbrough, B. C., Albertville	Tillman, J. S., Clio
Moore, D. S., Birmingham	Scott, W. F., Birmingham	Walker, A. A., Birmingham
Noland, Lloyd, Fairfield	Searcy, H. B., Tuscaloosa	Walls, J. J., Alexander City
Parker, L. D., Andalusia	Simpson, H. M., Florence	Walsh, Groesbeck, Fairfield
Perdue, J. D., Mobile	Smith, G. R., Ozark	Watson, Jerre, Anniston
Pickell, F. W., Brewton	Smith, M. E., Parrish	Weil, C. K., Montgomery
Price, A. B., Gordo	Stabler, L. V., Greenville	Welch, S. H., Birmingham
Ralls, A. W., Gadsden	Stallworth, J. P., Canoe	Weldon, J. M., Mobile
Redden, R. H., Sulligent	Stallworth, W. A., Frisco City	Wilkerson, Fred, Montgomery
Rountree, W. S., Birmingham	Tankersley, James, Prattville	Wright, D. H., Berry
	Taylor, W. R., Town Creek	

DELEGATES

Autauga: G. M. Taylor, Prattville.	Etowah: J. O. Finney, Gadsden; A. C. Gipson, Gadsden.	Marion: R. B. Garlington, Bril- liant; M. C. Hollis, Winfield.
Barbour: E. M. Moore, Clayton; P. P. Salter, Eufaula.	Fayette: A. C. Branyon, Fayette; J. B. Robertson, Fayette.	Marshall: Lee Weathington, Boaz.
Bibb: R. O. Ingham, Centerville.	Franklin: F. R. Underwood, Red Bay; W. E. Wilson, Russellville.	Mobile: J. H. Baumhauer, Mobile; A. H. Zieman, Mobile.
Blount: F. F. Whitehead, Blountsville.	Geneva: J. W. Dabbs, Geneva.	Monroe: J. T. Hall, Monroeville; R. A. Smith, Monroeville.
Bullock: Oscar Johnson, Pike Road.	Greene: C. D. Mason, Eutaw.	Montgomery: J. L. Branch, Montgomery; D. B. Monsky, Montgomery; Robert Parker, Montgomery; F. W. Riggs, Montgomery.
Butler: J. L. Bryan, Greenville.	Hale: I. H. Griffin, Moundville; C. A. Poellnitz, Greensboro.	Perry: A. F. Wilkerson, Marion.
Calhoun: N. T. Davie, Anniston.	Henry: L. P. Shell, Abbeville.	Pickens: L. C. Davis, Gordo; H. W. Hill, Carrollton.
Chambers: H. G. Clark, LaFayette; W. L. Marshall, Langdale.	Jackson: G. E. Nye, Scottsboro; W. C. Williams, Bridgeport.	Pike: W. H. Abernethy, Troy.
Chilton: Edward Day, Maplesville; C. R. Moore, Clanton.	Jefferson: I. C. Berrey, Birmingham; J. L. Carmichael, Birmingham; R. E. Cloud, Ensley; H. Earle Conwell, Birmingham; C. H. Ford, Birmingham; L. E. Kirby, Birmingham; J. D. Wilson, Birmingham.	Randolph: C. E. Ford, Roanoke; A. J. Gay, Roanoke.
Choctaw: W. J. Barber, Butler; H. W. Robinson, Edna.	Lamar: W. L. Box, Sulligent.	Shelby: J. H. Crawford, Columbiana; E. F. Sloan, Columbiana.
Clarke: R. D. Neal, Grove Hill.	Lee: F. H. Boyd, Opelika; F. R. B. Coggin, Waverly.	Sumter: J. P. Scales, Livingston; S. J. Williams, Livingston.
Coffee: E. G. Bragg, Elba; B. J. Massey, Enterprise.	Limestone: H. A. Darby, Athens.	Talladega: K. P. Evans, Sylacauga; A. K. Whetstone, Sylacauga.
Colbert: W. E. McGrath, Sheffield; R. D. Wright, Leighton.	Lowndes: E. F. Leatherwood, Hayneville; W. E. Lee, Ft. Deposit.	Tallapoosa: J. E. Cameron, Alexander City; J. F. Fargason, East Tallassee.
Conecuh: E. L. Kelly, Repton.	Macon: Murray Smith, Tuskegee; H. H. Winters, Tuskegee.	Tuscaloosa: R. M. Clements, Tuscaloosa; J. H. Goode, Tuscaloosa.
Coosa: J. A. R. Chapman, Goodwater.	Madison: Moody Walker, Huntsville; R. K. Wilson, Huntsville.	Walker: O. E. Marler, Carbon Hill; J. W. Simpson, Parrish.
Crenshaw: W. T. Bayles, Luverne.	Marengo: C. E. Kimbrough, Linden; T. F. Long, Sweet Water.	Washington: T. T. Box, Chatom.
Cullman: Lee Tucker, Cullman; M. S. Whiteside, Cullman.		Wilcox: Paul Jones, Camden.
Dale: H. C. Stovall, Pinckard.		Winston: R. Lee Hill, Haleyville; J. I. Mitchell, Haleyville.
Dallas: R. J. Grayson, Selma.		
DeKalb: C. J. Vaughn, Henagar.		
Elmore: J. S. Harmon, Elmore; E. P. Moon, Wetumpka.		
Escambia: W. J. Donald, Brewton; J. O. Lisenby, Atmore.		

MEMBERS

A	B	
Adams, M. Vaun, Mobile	Banks, J. T., Dadeville	Bogges, J. W., Jr., Montgomery
Akin, J. M., Birmingham	Barnes, J. M., Montgomery	Bograd, Nathan, Montgomery.
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Allgood, H. W., Fairfield	Becton, J. A., Birmingham	Boswell, F. P., Montgomery
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Anderson, Neal, Birmingham	Bird, B. C., Montgomery	Bowman, J. L., Montgomery
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		Broad, W. J., Montgomery

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Buresch-Henke, Hildegard,
Montgomery
Burns, W. W., Selma
Bush, D. A., New Brockton

C

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Carraway, C. N., Birmingham
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Chapman, J. P., Selma
Chapman, W. S., Jackson
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Cowles, T. D., Troy
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Crowder, J. W., Bessemer
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Cummins, M. L., Ashford
Curtis, R. C., Calera

D

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Dawson, J. R., Uniontown
Dean, Leon, Birmingham
Dennis, J. W., Montgomery
Dodge, Eva F., Montgomery
Dodson, J. H., Mobile
Dodson, R. B., Cullman
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Donald, J. M., Birmingham
Donald, T. C., Birmingham
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Drennen, Earle, Birmingham
DuBose, F. G., Maplesville
Dunn, J. E., Florence

E

Edge, O. N., Troy
Edwards, W. A., Wedowee
Elgin, C. E., Praco

F

Fargason, C. C., Dadeville
Finlay, A. G., Guntersville
Foster, J. O., Luverne
Frank, H. W., Gadsden

G

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Gaines, W. D., LaFayette
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Godbold, P. E., Pine Hill
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Green, R. C., Birmingham
Gwin, P. E., Sumiton

H

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Hill, J. H., Talladega
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Hirsh, J. E., Birmingham
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Holley, J. F., Florala
Hollis, L. W., Mobile
Holman, N. W., Ozark
Holmes, W. C., Foley
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Howell, H. W., Tuscaloosa
Howell, J. P., Demopolis
Huey, T. F., Anniston
Hughes, B. A., Tarrant
Hughes, V. P., Cullman
Hunt, M. C., Fairfax

J

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Jackson, H. L., Birmingham
Jackson, J. A., Sulligent
Jenkins, J. F., Sr., Birmingham
Jenkins, J. F., Jr., Birmingham
Jenkins, L. A., Birmingham
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Johnson, N. S., Clanton
Johnson, W. S., Notasulga
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Johnston, J. C., Chapman
Jones, U. L., Brooklyn
Jones, W. C., Birmingham
Jones, W. N., Birmingham
Jordan, J. S., Birmingham
Joseph, Kellie, Birmingham

K

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Kay, Frank A., Tuscaloosa
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Kennedy, Hughes, Jr., Birmingham
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Kirkpatrick, S. M., Selma
Krout, C. F., Brent

L

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Linn, J. E., Birmingham
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Lovelady, R. G., Birmingham
Luckie, K. E., Selma

M

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Martin, R. A., Pell City
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McBurney, Ralph, Tuscaloosa
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Milligan, R. L., Montgomery
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Montgomery, A. H., Montgomery
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Morgan, M. L., Luverne
Morgan, Ralph, Birmingham
Murphy, G. E., Birmingham

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Norton, E. M., Fairfield
Nungester, G. H., Decatur

O

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Owen, H. R., Union Springs

P

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Parnell, C. N., Maplesville
Partridge, C. V., Mobile
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Peck, Willena, Montevallo
Penton, J. R., Montgomery
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Powell, O. C., Titus

R

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Reynolds, F. D., Montgomery
Reynolds, G. C., Brundidge
Riggs, S. W., Pleasant Hill
Riser, W. H., LaFayette
Roan, A. M., Decatur

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Robertson, J. P., Birmingham
Robbins, W. J., Florence
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Street, T. H., Alexander City
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Sturkie, S. D., Clanton

Suggs, S. D., Montgomery
Sumner, I. C., Mobile

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Terhune, S. R., Birmingham
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Thomas, B. F., Auburn
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Thorn, J. A., Vina
Thrower, B. F., Enterprise
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Tucker, E. W., Fairfield
Turlington, L. F., Birmingham
Tyler, R. E., Tuscaloosa

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Underwood, S. S., Birmingham

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Ward, J. A., Birmingham
Warren, T. A., Georgiana
Warrick, G. W., Birmingham
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Weiner, Harry, Birmingham
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Wilkinson, J. G., Cottonwood
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Williams, J. H., Fairfield
Williams, J. R., Selma
Wilson, F. C., Birmingham
Windham, L. A., Luverne
Woodall, P. S., Birmingham
Word, Buford, Birmingham
Wright, D. O., Ft. Payne

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Dr. Franklin Jackson, Montgomery.	Dr. C. O. Williams, West Point, Ga.	Mrs. J. U. Reaves, Mobile.
		Mrs. W. M. Salter, Anniston.
		Mrs. G. R. Smith, Ozark.
		Mrs. Merle E. Smith, Parrish
		Mrs. A. L. Stabler, Birmingham.
		Mrs. Martha Lee Stallworth, Evergreen.
		Mrs. C. J. Vaughn, Henagar.
		Mrs. A. D. Wallace, Plantersville.
		Mrs. W. D. Wood, Camp Hill.

Mrs. Hugh I. Adams, Birmingham.	Mr. J. V. Henderson, Birmingham.	Mr. E. R. Skinner, Mobile.
Mr. W. E. Avery, Lynchburg, Va.	Mr. George E. Herring, Woodstock.	Mr. Harold Spitze, Atlanta, Ga.
Mr. J. G. Box, Birmingham	Mr. D. D. Johnson, Belmont.	Mr. G. C. Starmer, Birmingham.
Dr. E. B. Carmichael, University.	Mr. J. J. Kennedy, Hannibal, Mo.	Mr. D. L. Stewart, Birmingham.
Mr. Thomas Charon, Donalsonville, Ga.	Mr. C. P. Loran, Birmingham.	Mr. Exum Walker, Atlanta, Ga.
Mr. Lennox Clifton, New Orleans, La.	Mr. R. F. Lovelady, Birmingham.	Mr. H. O. Walton, Philadelphia, Pa.
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Mr. W. D. Davis, Montgomery.	Mr. E. G. Myrick, Birmingham.	Mr. C. W. Whitehead, Birmingham.
Mr. Larkin Edmondson, Mobile.	Mr. C. C. Nifong, New Orleans, La.	Mr. Lee Whorton, Gadsden
Mr. A. P. Elliott, Birmingham.	Mr. H. H. Payne, Jr., Birmingham.	Mr. H. M. Williams, Aberdeen, Miss.
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Mr. C. W. Hagood, Mobile	Mr. Ralph Porter, Savannah, Ga.	Jesse F. Yeates, Birmingham.
Mr. Charles Hanson, Birmingham.	Mr. J. E. Rich, Frisco City	

SUMMARY OF ANNUAL ATTENDANCE

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1910	10	44	83	157	51	344	Mobile
1911	14	53	66	139	19	291	Montgomery
1912	16	63	92	348	40	559	Birmingham
1913	7	49	83	124	17	280	Mobile
1914	16	67	85	226	20	414	Montgomery
1915	32	74	108	429	49	692	Birmingham
1916	19	66	92	106	41	306	Mobile
1917	18	64	96	199	32	409	Montgomery
1918	27	63	80	257	44	471	Birmingham
1919	22	43	87	94	102	348	Mobile
1920	16	61	59	85	51	272	Anniston
1921	26	65	73	183	58	405	Montgomery
1922	26	72	76	314	68	556	Birmingham
1923	14	48	66	106	50	284	Mobile
1924	29	70	84	230	79	492	Montgomery

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1925	27	78	97	328	113	643	Birmingham
1926	33	74	105	194	131	537	Mobile
1927	36	85	104	252	87	564	Montgomery
1928	33	77	108	507	106	831	Birmingham
1929	19	60	102	176	109	466	Mobile
1930	32	83	106	286	102	609	Montgomery
1931	26	80	116	410	158	790	Birmingham
1932	19	60	101	158	133	471	Mobile
1933	21	74	103	264	85	547	Montgomery
1934	26	75	97	404	53	655	Birmingham
1935	15	59	91	180	83	428	Mobile
1936	23	79	95	265	68	530	Montgomery
1937	25	80	96	396	81	678	Birmingham
1938	18	65	78	157	63	381	Mobile
1939	29	79	96	326	84	614	Montgomery

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

APRIL 1939

Examinations for diphtheria bacilli and Vincent's	693
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	497
Typhoid cultures (blood, feces, urine)	759
Examinations for malaria	1,414
Examinations for intestinal parasites	2,929
Serologic tests for syphilis (blood and spinal fluid)	16,846
Darkfield examinations	30
Examinations for gonococci	1,388
Examinations for tubercle bacilli	1,641

Examinations for Negri bodies (microscopic)	77
Water examinations (bacteriologic)	739
Milk examinations	1,872
Pneumococcus typing	73
Miscellaneous	944
Total specimens	29,902

PNEUMOCOCCUS TYPING IN LOBAR PNEUMONIA

Typing of the invading organism in sputum from cases of lobar pneumonia is accomplished by the Neufeld Quellung Reaction. Until quite recently no difficulty was

experienced in the laboratory with this procedure. Of late, however, numerous specimens have been received in which pneumococci were demonstrable in stained preparations but could not be typed. Inquiry made of the physicians submitting these specimens elicited the information that the patients had been treated with sulfapyridine prior to the collection of the specimen. Others have reported similar difficulty following treatment with this drug. It would appear, therefore, that, should it be desired to determine the type of infecting pneumococcus, specimens should only be submitted before any of the drug has been administered.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

CANCER DECLARED TO BE A REPORTABLE DISEASE

The State Committee of Public Health at one of its recent meetings decided to make cancer a reportable disease and instructed the State Health Officer to devise the necessary forms and method of reporting. The first thought was to have a separate report form for this disease, but it was later decided not to burden the practicing physician with additional report forms, but rather to utilize the present weekly report cards with which everyone is familiar.

The only request of the State Department of Health is that, under the column for diagnosis, the organ also be specified; as, for example, cancer of the stomach, cancer of the uterus, etc. These weekly report cards are sent to each practicing physician and there is a return envelope addressed to the County Health Department. At the end of each week these cards are mailed to the State Department of Health where analyses as to type, distribution, race, sex and age will be made.

This action on the part of the State Committee of Public Health was taken in order that a better idea might be obtained as to the prevalence of this disease. Cancer deaths are at present our chief guide to the extent of the problem in Alabama and it is realized that some other measurement is desirable. The fight on cancer is gathering momentum and the first requisite is a knowledge of the extent of the enemy's inroads. It is hoped

every physician will cooperate and make a memorandum to *Report Cancer Cases*.

BISMUTH

During the past three years the bismuth preparation supplied by the State Department of Health was a soluble preparation in oil. Since it is necessary to inject any soluble bismuth in oil twice a week, in order to maintain the proper concentration in the tissues, it was decided to replace the oil soluble bismuth with an oil insoluble bismuth preparation. The latter type of bismuth is given once a week. In a recent report by the Cooperative Clinical Group it is stated, that, "with insoluble salts, especially the subsalicylate, absorption is slowest of all, but with the average therapeutic doses, cumulative toxic action need not be feared. Injections need to be given only once a week. The dose is 0.2 gm. or 3 grains of subsalicylate (not 0.2 gm. of metallic bismuth) at 5 to 7 day intervals."

The bismuth subsalicylate preparation supplied by this department contains 0.2 gm. or 3 grains of bismuth subsalicylate in each 1 cc. The bismuth preparation supplied formerly required 2 cc. in order to have a sufficient dosage of bismuth. The present preparation requires 1 cc. for the proper dosage.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

NUTRITION EDUCATION

Only those physical conditions which present themselves in the most dramatic fashion capture the immediate attention of both the medical profession and the laity. Those which progress gradually often remain unnoticed until the grand climax is at hand in the form of a classical example of some disease. It is believed that many nutritional diseases are of the latter type. The nutritional deficiencies are built up over a period of time and when the deficiency becomes sufficiently manifested there appears a typical disease, such as, pellagra, scurvy, anemia, beriberi, rickets, tetany, etc. Tetany may be used as an illustration of this statement. An apparently healthy baby may have a sudden attack of spasms of the extremities which will be severe enough to make the parents think the child is on the verge of an exodus. As a matter of fact, this condition is not an acute illness at all, but one which has result-

ed from an accumulated deficit of essential food factors during the preceding early months of the patient's life. If this baby had received a complete clinical and laboratory examination a short while before the attack, definite evidence would have been found indicating a deficiency disease. Many children suffer from nutritional afflictions without presenting distinct symptoms. For instance, over fifty per cent of children under two years from indigent families in the large cities have rickets developed sufficiently that it can be demonstrated by laboratory methods but cannot be detected by casual observation.

Nutritional deficiencies are likely to develop where there is poverty, inertia and ignorance. Public health agencies can help combat all three of these factors. By helpful suggestions as to the expenditure of money allowed for food by agencies in charge of funds many improvements in nutrition can be made. Through education the problems of inertia and ignorance can often be helped and thus dietary improvements be made. Since diet is an every day problem, its importance is sometimes minimized to such an extent that it receives only casual consideration. Herein lies the danger of developing poor food habits which finally lead to nutritional deficiencies.

A well-rounded educational program with a public health agency emphasizes the nutrition of the prenatal, infant, preschool child, school child and the adult. During this past year many County Health Departments in Alabama have become vitally interested in the development of their nutrition programs. Through the prenatal clinics the importance of proper diet to the expectant mother is taught. The proper feeding of infants is also emphasized. In many counties the preschool clinics offer a very valuable place to contact parents and give suggestions as to the proper feeding of the child of preschool age. The school lunchroom is an excellent place to help the child develop desirable food habits, and also to teach the subject of nutrition to parents and teachers. Through working with various civic organizations the subject of adult nutrition and the diet of the whole family is emphasized.

These nutrition education programs will go a long way toward raising the nutritional status of people and thus aid considerably in preventing diseases in Alabama. M. W. B.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E. Director

RURAL SANITATION

The relationships of people, the one to the other and to the mass or group, are governed by rules. These are designed to be in the best interest of each individual, if possible, but must be in the best interest of the group. These rules are known as laws and these laws are made by representatives of the people. To enforce these rules, governments are set up. These are divided into national, state, county, and city, each having its specific function. The people are the source of all authority. They delegate a portion of their authority to the state. The state is the source of all governmental authority. It has delegated certain functions to the national government, others to the county, and others to the city. Those not delegated are retained.

Public health is recognized as important to the welfare of the mass. The national government has a health service, the State of Alabama has its health service, and the counties and cities are served by a joint health service.

Typhoid, the dysenteries and hookworm are public problems, which can be reduced and possibly eventually eliminated by the simple expediency of safe feces disposal.

To accomplish this result, many of the municipalities have turned for advice and aid to that arm of government whose function is disease control. Sewers have been built as measures of convenience and essentials of public health to take care of the largest part of the problem. Septic tanks have been constructed where sewers were not economically feasible. Pit privies have been built where neither of these methods could be used. This mutual responsibility has been shared by the municipality and the health department. Without the joining of authority granted in various ways by the Legislature through the Constitution to these two arms of government only partial results could be accomplished by either agency. There have been used both the police power delegated by the city, which can be exercised by the health department, and the power to finance, which has been granted the municipalities by the Legislature but denied the health department.

Sewer systems are long lived, septic tank

systems are shorter lived, while pit privy systems are still shorter lived. On the other hand the problem of public health protection and the safe disposal of feces is permanent. Public health administrative policies should recognize this fact and place municipal sanitation on a sound administrative basis whereby the municipality assumes full responsibility, to be applied under the advice and guidance of the health department. For the health department to attempt to carry the burden of construction with only the police function granted can lead only to a measure of failure immediately and for all time in the future.

Municipal work has progressed on the basis of an accurate analysis of the problem as found in each town or city. Procedure has been standardized for the use of each health department on the basis of recognizing the permanent problem. Those departments which are not using or attempting to use the procedure are missing an opportunity for effective service.

In several counties these municipal problems have largely been completed by their respective health departments and attention must now be directed to rural areas. Those responsible must cease to deal with municipal governments, whose grants of authority they know, and turn to county governments to ascertain what grants of authority have been made. They must find what is the working relationship between the county government and the health department in the matter of protecting the public health through feces disposal.

In this area, sewer systems are not to be found but septic tank installations and pit privies are required, since typhoid, the dysenteries and hookworm are present. Can the county government delegate police power to the health department as was done in the municipality? Can the county government aid in financing as was done in the city?

The health department can no more successfully carry the burden of construction here than it could in the municipality. Property rental, absentee ownership, lack of credit to secure time payments, ignorance or perverseness, and beliefs out of line with modern knowledge present stumbling blocks to thwart the efforts of the health department. These become extremely costly when measured by accomplishments.

Police power, derived from the state independent of county government, is provided the health department in county areas, through specific legislative enactment (Section 1134 of the Code of 1923 as amended September 9, 1927) or through the delegation of power to the State Health Department. This may be used but has its limitations.

While sanitation has police elements it likewise has other elements of law which govern, since cost is attached to the action. It is, however, a less satisfactory implement to use unsupplemented in rural districts than in municipalities.

County Health Departments have a problem to solve. Does it not appear that the time has come to take counsel and seek a solution?

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director
NATURAL INCREASE IN POPULATION

By natural increase in population is meant the difference between the birth rate and the death rate. In 1938, the provisional birth rate was 21.6 births per 1,000 population; the death rate, 10.4 deaths per 1,000 population. The difference between 21.6 and 10.4—11.2—represents the natural rate of increase. It is the excess of the birth rate over the death rate. This is a crude way of expressing population changes. The figure is usually under rather than overstated, because birth registration is known to be not as complete as death registration.

The general trend in the natural rate of increase has been downward. This has been especially true for the white. Although the colored birth rate has generally exceeded the white rate by 2 or 3 per 1,000, the colored death rate has exceeded the white by about 5 per 1,000. The colored advantage of a higher birth rate was more than offset by a higher death rate.

With a declining birth rate and a rising death rate, the excess must of a necessity approach zero and may become a negative quantity. In the latter case, the death rate would exceed the birth rate. The natural rates of increase since 1920 are shown in the accompanying table.

According to figures* recently made avail-

*Statistical Bulletin, Metropolitan Life Insurance Company, Vol. 20, No. 4, Page 5.

NATURAL INCREASE IN POPULATION ACCORDING
TO COLOR AND YEAR: ALABAMA, 1920-1937

Excess of Births Over Deaths Per 1,000 Pop.			
	Total	White	Colored
1920	12.1	15.5	6.6
1921	15.7	17.3	10.6
1922	13.3	16.0	9.0
1923	12.4	15.0	7.9
1924	12.2	15.5	6.7
1925	13.4	16.5	8.0
1926	14.0	16.7	9.3
1927	15.8	18.3	11.6
1928	12.3	15.0	7.8
1929	11.5	14.0	7.1
1930	12.5	14.5	9.0
1931	12.8	14.4	10.0
1932	13.2	14.2	11.3
1933	11.7	12.3	10.7
1934	12.5	13.3	10.9
1935	12.0	12.4	11.2
1936	10.2	10.9	9.0
1937	10.8	11.7	9.0

able, the natural rate of increase in the United States in 1937 was 5.7 per 1,000; England and Wales, 2.5; Sweden, 2.3; Italy, 8.7; Germany, 7.1; and France had a negative figure of 0.3. In the latter case the death rate exceeded the birth rate. The long-time trend in all of the above countries has been downward. Italy and Germany of the countries referred to were the only ones having a rate of increase above that of the United States. Even as far back as 1922, France had an excess rate of less than 2.0. Since 1922, Italy's rate has always exceeded that of the United States. On the other hand, that of Germany was consistently lower until 1934, after which it remained higher.

The birth rate is much more susceptible to change than the death rate. Germany has shown that economic and other public measures can increase the birth rate. We know that economic conditions definitely affect the birth rate.

Value of Prenatal Clinics—Medical care in rural prenatal clinics now can be evaluated on the basis of available clinic reports. A preliminary estimate of the maternal mortality rate for the first two thousand consecutive clinic cases, involving medical services in all the rural clinics, indicates that the number of maternal deaths in this group was less by one-half than for the State at large. Of these cases, 52.4 were white and 47.6 colored.

The percentage of indigent patients referred to the clinics because of previous or existing pathology was unusually high. Consequently, a reduction of the maternal mortality rate in this general group appears to be significant.—*Virginia M. Monthly*, May 1939.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN
ALABAMA

1939

	March	Estimated Expectancy	
		April	April
Typhoid	6	23	16
Typhus	17	13	8
Malaria	140	130	113
Smallpox	4	7	15
Measles	1026	788	691
Scarlet fever	88	47	41
Whooping cough	183	180	209
Diphtheria	38	37	49
Influenza	5738	5353	357
Mumps	131	221	185
Polio myelitis	2	3	2
Encephalitis	4	2	3
Chickenpox	222	200	196
Tetanus	5	7	6
Tuberculosis	223	309	308
Pellagra	12	21	45
Meningitis	10	7	16
Pneumonia	558	645	471
Syphilis	1670	2354	241
Chancroid	10	5	8
Gonorrhea	266	342	179
Ophthalmia neonatorum	0	3	1
Trachoma	0	0	0
Tularemia	2	3	1
Undulant fever	6	1	1
Dengue	0	0	0
Amebic dysentery	0	0	0
Rabies—Human cases	0	0	0
Positive animal heads	34	21	

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Book Abstracts and Reviews

Medicine in Modern Society. By David Reisman, M. D., Professor of the History of Medicine and Professor Emeritus of Clinical Medicine, University of Pennsylvania. Pp. 226. Cloth. Price, \$2.50. Princeton, N. J.: Princeton University Press.

Dr. David Reisman, a native of Saxe-Weimar, Germany, a Philadelphia physician since 1893, a member of the medical faculty of the University of Pennsylvania since 1908, and author of an impressive number of works on medical subjects, was invited to deliver a series of addresses known as the Vanuxem Lectures at Princeton University. These lectures, or at least some of them, were collected for publication in book form, and the present volume is the result.

"Medicine in Modern Society" grew out of Dr. Riesman's belief that "the history of medicine is in reality an epitome of the history of civilization and should form a part of every man's culture," he tells us. His primary purpose seems to be to act as an interpreter and liaison officer between medicine and the laity. He has reason to be pleased with his success in attaining that purpose.

In 15 chapters, and a preface—incidentally, one of the briefest on record—Dr. Riesman considers from many points of view the part played by modern medicine in the life of our time. His chapter subjects range from "Medicine—Art and Science" to "The Task for Intelligence," and include such topics as "Medical Progress—Early Steps," "Medical Progress in the Nineteenth Century," "Cancer—the Riddle of Modern Science,"

"Superstition and Cults," "Medical Education—Epitome of Civilization," "Leisure and Health," etc.

By the very nature of the task which Dr. Riesman undertook, this work is largely historical in approach and, for that reason, necessarily contains much material with which the practicing physician, or even the layman engaged in health work, is familiar. This does not mean, however, that such a person will find "Medicine in Modern Society" uninteresting or uninformative, for it is much more than a retelling of the fascinating, though often told, story of the great victories of the men and women of science over disease and premature death. Dr. Riesman attempts to interpret those victories in terms of improved health and vastly greater happiness for the average person.

The author also tells about other aspects of modern medicine, not in terms of hormones, allergies, bacilli, sera, etc., but in terms of, for instance, the availability of adequate medical care to the poor and the medically poor. Of that he wrote:

"Despite much discussion, there is as yet no concrete plan by which adequate medical care is to be provided for all the people. The subject is surcharged with emotionalism, with misunderstandings both wilful and unintentional. All that is possible—at least, I find it so in my case—is to indicate directions, the evolutionary trends that should guide us in our approach to so controversial a subject.

"I have already referred to one direction, namely, the greater participation of the community or the state through taxation in supporting hospitals. Such a support will definitely have to be extended to medical schools, for private support is becoming more and more precarious; it is likely to be entirely inadequate in the near future. If hospitals and medical schools are to give the best service, they must be supported out of public funds. Since one of the greatest elements in the expense of good medical care, as I have intimated, is laboratory fees, a beginning of state support could be made advantageously in that direction both from the point of view of the public and of the experiment as a whole. State supported laboratories would make a small charge for their work so that doctors everywhere could avail themselves of the service. This would materially raise the level of rural practice and give to the patient far removed from a hospital the benefit of scientific medicine. In a large state, branch laboratories might have to be established so as to reduce the time required for reports."

Of the scarcity of doctors in rural sections, he has the following to say by way of suggestion for a solution of this problem of particular seriousness in predominantly rural Alabama:

"It has been shown that when the present practitioner dies or moves away from such a community, it is almost impossible to have a well-trained physician take his place. This is the reason why vast areas in this country are totally undermanned medically. If good doctors are to locate in such regions, they must be assured of a reasonable income which can be derived only

from public funds. Moreover, they must be provided with hospital facilities, without which the well-trained doctors of today do not care to practice."

There is no doubt that those fortunate enough to hear Dr. Riesman at Princeton learned much about medicine and the part it plays in the life of our times. It is fortunate that this knowledge has been made available to a much larger public.

J. M. G.

Life and Letters of Dr. William Beaumont. By Jesse S. Myer, A. B., M. D., Late Associate in Medicine in Washington University, St. Louis; with an introduction by Sir William Osler, Late Regius Professor of Medicine in Oxford University, England. Cloth. Pp. 327. Price, \$5.00. St. Louis: The C. V. Mosby Company, 1939.

One reads the *Life and Letters of Dr. William Beaumont* with mingled emotions—aroused, in the first place, by the transference of one's thoughts to the days of 1822; and secondly—but not in order of importance, by the epoch-making studies of Dr. Beaumont on the physiology of digestion, rendered possible by fortuitous circumstances and a desire to know the truth. "Truth, like beauty, when 'unadorned is adorned the most,' and, in prosecuting these experiments and inquiries, I believe I have been guided by its light."

Originally published in 1912, a reprinting of the work was warranted by an unabating interest in America's pioneer physiologist; and the publisher, The C. V. Mosby Company, is to be commended for making the volume possible. Indeed, the time should not come when this record of "patient, persevering research" is not available to inspire all men everywhere.

Introduction by Sir William Osler, written for the first printing, is preserved, enhancing the value of the present volume. Further, Dr. A. C. Ivy, Professor of Physiology and Pharmacology at Northwestern University, appraises—in the opening pages of the book—Dr. Beaumont's research of digestion in the human stomach in the light of present-day knowledge of this subject. "Certain of his interpretations were in error," observes Dr. Ivy, "but it must be remembered that Beaumont worked with only a 'gum-elastic tube,' a magnifying glass, a scale, a thermometer, an incubator consisting either of a basin of water on a sand-bath or an armpit, a muslin filter, nutgall and his five senses. Moreover, in his day the science of physiology, particularly in the field of digestion, was but an embryo. Thus, certain of his interpretations were erroneous, not because of an error in observation, but, because the observations have since assumed a new meaning which either was not or could not have been recognized by Beaumont. Yet, even today, one marvels at the high degree of accuracy of his fifty-one inferences. . . ."

Would you, too, like to turn the clock of the years backward and walk with Dr. Beaumont and his famous patient, Alexis St. Martin, through the interesting field of gastric digestion? This "labor of love" by Dr. Myer will lead the way. Sometimes discouraged, perhaps you would like to know how another saw an opportunity in every difficulty. Dr. Beaumont's life story is the answer.

D. L. C.

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THE JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Volume 8

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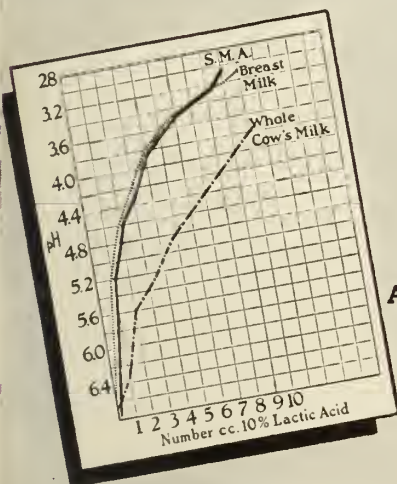
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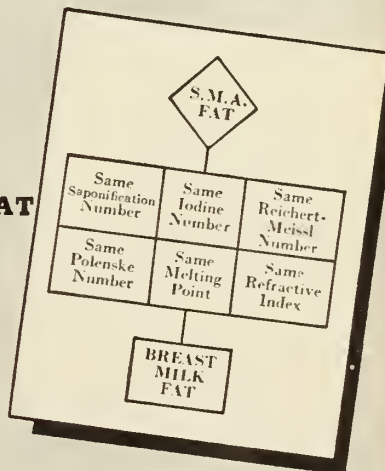
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Miscellany

TONICS AND BALDNESS REMEDIES CAN- NOT INFLUENCE HAIR GROWTH

BELIEF THAT SCALP CAN BE CULTIVATED LIKE
LAND CAUSES USELESS EXPENDITURE
OF MILLIONS ANNUALLY

The belief that the human scalp can be cultivated like a tract of arable land is a mere superstition and results in the useless expenditure of millions of dollars on hair tonics, baldness remedies and expensive "hair growing" treatments, declares Lois Mattox Miller, New York, in the June issue of *Hygeia, The Health Magazine*.

"Our hair is not an independent living structure," she says. "Like finger nails or toe nails, hair is simply another form of the horny layer of the skin itself. Hair does not 'breathe' like a plant, nor does any 'vital fluid' flow through its shaft. Each hair grows up from a tiny papilla that lies deep in the corium, or body of the skin, and over which the hair end fits like a cap. Growth pushes the hair upward through a firm tubule, or follicle, which shapes it into a strong slender shaft. For a very short distance above the papilla it is a succulent, living tissue, similar to the deeper layer of the skin itself. But beyond that point it is lifeless—a tough bristle of insensitive horn.

"Baldness is of two types. One type, known as symptomatic alopecia, accompanies a variety of diseases. In this type the hair falls out entirely or in patches. When the disease is cured, the hair often grows in again as mysteriously as it fell out. The claims of success made by baldness remedies are founded on such cases; the hair would have returned even if no remedy had been applied."

The other type, "common" baldness, is still a profound puzzle, and nothing known to medical science will cure it. There is much evidence that this scourge is hereditary.

Normally each hair lives from six months to four years, after which it becomes detached from the papilla and falls out. A moderate amount of hair shedding, particularly in the human "moulting seasons" of spring and summer, need cause no alarm.

One can safely lose as many as fifty or 100 hairs a day.

There is no means of permanently restoring color to white or gray hair. So-called "hair restorers" are nothing more than dyes, and while some are harmless they are difficult to apply and are effective for a short time only. The hair derives its color from pigment granules present in the microscopic cells of the shaft itself. Normally in later life, or prematurely in many cases, this natural supply of pigment in the hair-making apparatus may diminish, and there is no way of replenishing the supply.

The common belief that sunlight tends to stimulate hair growth has been exploded by experiments. Late one spring the scalp and body hairs of twelve college girls were microscopically examined and counted. All summer the girls basked in the sun. In the autumn examination showed the prolonged baking had had no effect whatever on the growth, in number or texture, of the hair on the exposed parts.

That shaving causes hair to grow out thicker and more bristly than before has similarly been disproved by experiments. The moral, for women, is that shaving is safer than chemical depilatories, scraping the skin with pumice stone or emery boards or resorting to hair removers, whether of the chemical or wax variety, which may cause severe skin infections. The one safe method of permanently removing the hair is electrolysis, but it is expensive and should be entrusted only to an expert, with the knowledge of one's physician.

Other myths concerning the hair, which sound research has been exploding for years, are that the hair should be shampooed as seldom as possible because any kind of moisture is harmful, that absolute cleanliness achieved by washing the hair twice a week or even daily helps the scalp to "breathe," that massaging loosens the hair, or that massaging with electric vibrators and new-fangled vacuum cups somehow strengthens it.

Doctors recommend that we cast aside superstitions about the hair, and follow a few simple hygienic rules: shampoo the hair regularly, brush and massage the scalp vigorously every morning and evening, and never allow it to get too oily or too dry. Dandruff, probably a contributing cause of baldness, will usually succumb to a shampoo made of tincture of green soap.





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